

● **AGRIBUSINESS**

Agribusiness Models and Success Stories

● **FOOD SECURITY**

From Crisis Strategies to Small-scale Farming Innovators

● **KEY DATA**

Facts and Figures

● **STATE OF PLAY**

Making the 21st Century Farm: A How-to Guide



Empowered lives.
Resilient nations.

SouthernInnovator

A magazine celebrating South-South innovation

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www.southerninnovator.org

Agribusiness & Food Security Issue

How agribusiness and food security can help in the push to meet the MDGs



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About UNDP

Empowered lives.
Resilient nations.

The United Nations Development Programme (UNDP) is the UN's global development network, an organization advocating for change and connecting countries to knowledge, experience and resources to help people build a better life.

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Southern Innovator

Welcome to the third issue of **Southern Innovator**. Our first issue, in May 2011, covered the dynamic and fast-changing world of mobile phones and information technology for development. That issue was called “a terrific tour de force of what is interesting, cutting edge and relevant in the global mobile/ICT space...” by one innovator. The second issue, launched in May 2012, covered entrepreneurs tackling the challenge of youth unemployment and reducing poverty using innovative business models.

Why focus on agribusiness and food security in the third issue of **Southern Innovator**? During the 2011 Global South-South Development Expo held at the Food and Agriculture Organization’s headquarters in Rome, Italy, it became clear there was not a shortage of solutions to the many challenges of ensuring everyone in the world has access to an adequate food supply, but that these solutions need to be better shared and understood.

As has been pointed out in many studies and books, the world has both enough food to feed its current population and the ability to keep feeding the global population as it grows. But inefficient farming methods, distribution and storage practices ensure much of the world’s food supply either fails to reach the poor, is wasted, or becomes a source for biofuel rather than a food source.

The stories in this issue profile innovators who are tackling these problems and show how they are doing it. The centre spread on how to create a 21st century “smart” farm (page 28) is an amalgamation of many great ideas discovered while researching this issue. It is one of the many features to aid budding innovators to replicate the successes described in **Southern Innovator**.

In each issue of **Southern Innovator** you will find contact information for further follow-up. We have attempted to provide the most current information, but given the quick pace of change in the global South, this is not always possible. We apologize in advance for any out-of-date information, including Internet links. We hope that this magazine makes a useful contribution to your work and helps to inspire all concerned to act!

Cosmas Gitta
Editor-in-Chief
Southern Innovator
www.southerninnovator.org



Agribusiness & Food Security

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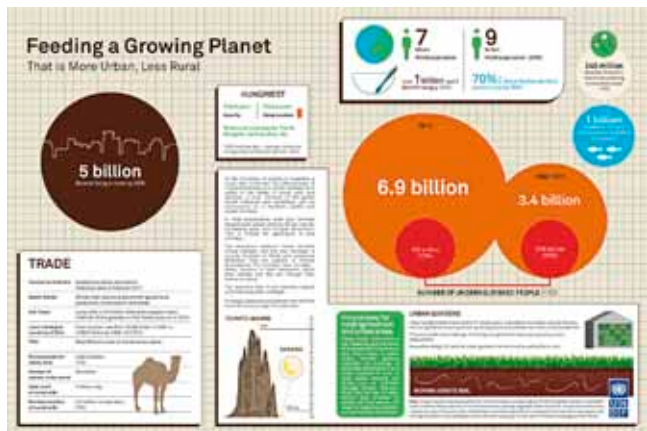
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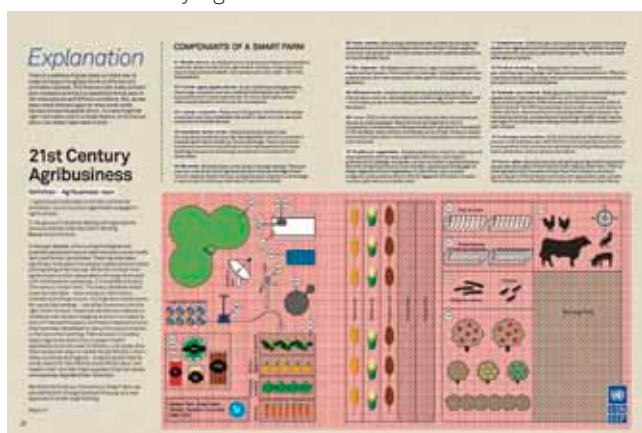
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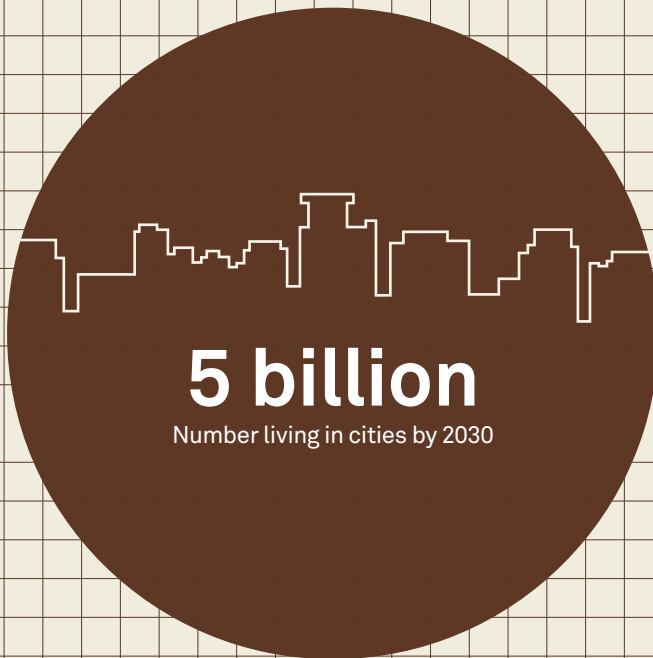
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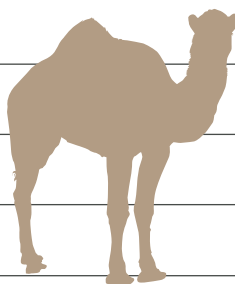
Feeding a Growing Planet

That is More Urban, Less Rural



TRADE

Food price inflation:	Global food prices reached an historical peak in February 2011.
South-South:	Will be main source of growth for agricultural production, consumption and trade.
Fair Trade:	Up by 28% in 2010 from 2009 and shoppers spent US\$5.84 billion globally on Fair Trade products in 2010.
Least developed countries (LDCs):	Food imports rose from US \$9 billion in 2002 to US\$23 billion by 2008. (UNCTAD)
70%:	West Africa's share of world cocoa output.
World market for camel milk:	US\$10 billion. (FAO)
Number of camels in the world:	20 million.
Daily yield of camel milk:	5 litres.
World production of camel milk:	5.3 million tonnes (est.). (FAO)



HUNGRIEST

Rural poor

Majority

Urban poor

Rising numbers



Victims of catastrophe: floods, droughts, earthquakes, etc.

1,800 kcal per day – average minimum energy requirement per person. (FAO)

At the University of Sydney in Australia, a study has confirmed the effectiveness of ants and termites as a tool to increase farm yields in dry areas. It found ants and termites in drier climates of the global South improved soil conditions just as earthworms do in Northern, wetter and colder climates.

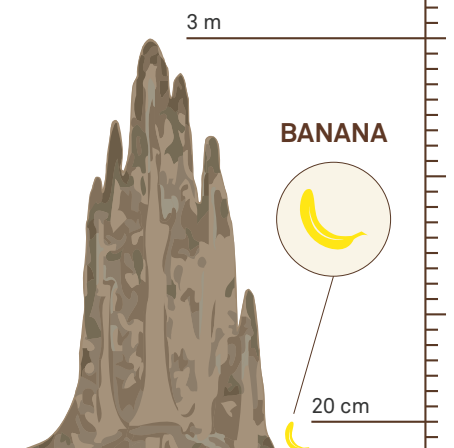
In field experiments, ants and termites helped raise wheat yields by 36 per cent by increasing water and nitrogen absorption. This is critical for agriculture in arid climates.

The Australian research found termites infuse nitrogen into the soil. Nitrogen is usually dumped on fields with expensive fertilizers that are subject to market fluctuations. The termites have nitrogen-heavy bacteria in their stomachs, which they excrete into the soil through their faeces or saliva.

The research also found termites helped with reducing water wastage.

In Malawi, bananas are planted near termite mounds to encourage the creatures.

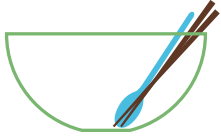
TERMITE MOUND





7

billion
World population



over **1 billion** (est.)
World's hungry. (FAO)



9

billion
World population (2050)

70%: Global food production
needs to rise by 2050



245 million
Number of world's
food insecure living
in mountain areas
(FAO)

1 billion

depend on fish as a
primary source of protein
(World Bank)



2010

6.9 billion

925 million
(13%)

1969-1971

3.4 billion

878 million
(26%)

NUMBER OF UNDERNOURISHED PEOPLE (FAO)

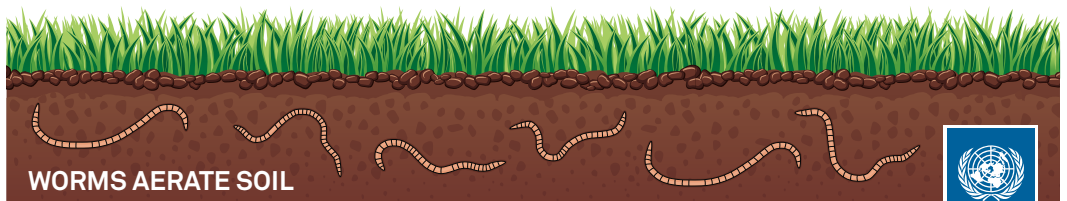
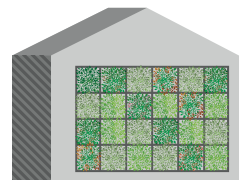
Innovations for rural agriculture and urban areas

These two interventions can make big improvements to food security in both rural and urban areas. In urban areas, vertical gardens intensify the quantity of food that can be grown on a small footprint of land. In rural areas, keeping soil fertile can be achieved through simple interventions like the use of earth worms and termites to aerate soil and reduce the need for expensive fertilizers and harmful chemicals.

URBAN GARDENS

Urban gardens take many forms. In recent years, innovators have been pioneering new, vertical gardens to pack as much growing space as possible into small urban footprints. This is to tackle the challenge of finding enough land to feed ever-growing urban populations.

Innovative design for vertical urban gardens can be found at verticalfarm.com.



WORMS AERATE SOIL

Fact: A report by the International Centre for Soil Fertility and Agriculture (IFDC) found Africa had a "soil health crisis" and that three-quarters of its farmlands were severely degraded (New Scientist). The causes of this crisis include overuse of the same plot of land due to population growth, which prevents farmers from moving around, and high fertilizer costs, leading to African farmers using just 10 per cent of the world average on their farms.



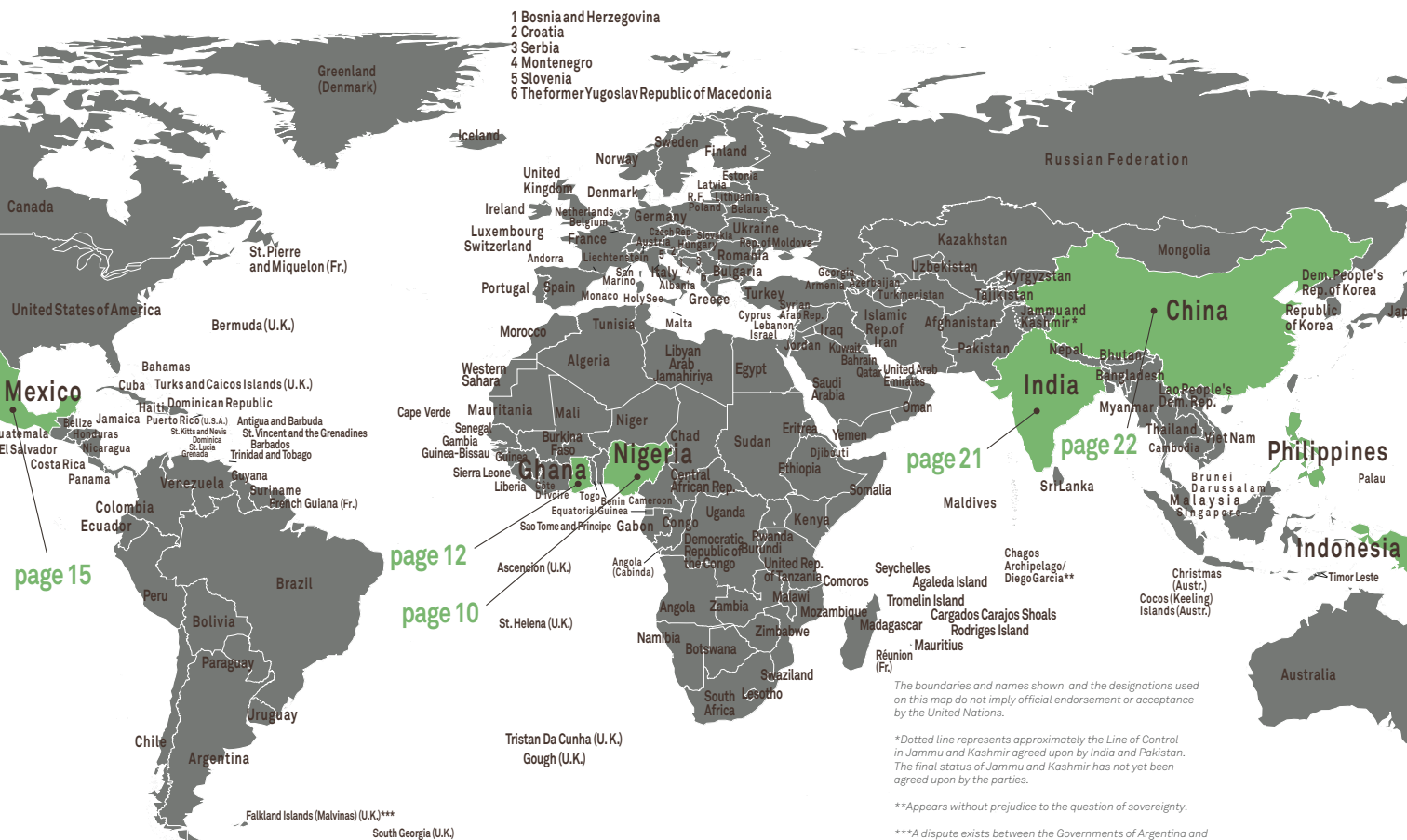
Agribusiness

Introduction

The world needs to grow more food. UN Secretary-General Ban Ki-moon has called for food production to increase by 50 per cent by 2030 to meet rising demand as the world's population heads towards 9 billion. It recently reached 7 billion (UN).

Attention has turned to Africa as the source of more food to feed the world's growing and urbanizing populations. And while there are global agribusinesses already expanding their farms in Africa – and others buying large tracts of land – this also serves up a paradox: Africa's existing farmers, most of them small-scale and making up much of the continent's population, are already dealing with various crises such as the soil health crisis, identified in a report by the International Centre for Soil Fertility and Agriculture (IFDC). It found that three-quarters of Africa's farmlands were severely degraded (New Scientist). The causes of this crisis include overuse of the same plot of land due to population growth, which prevents farmers from moving around, and high fertilizer costs, leading to African farmers using just 10 per cent of the world average on their farms.

The International Fund for Agricultural Development (www.ifad.org) called in 2008 for small family farms – which sustain the livelihoods of more than 2 billion people around the world – to be put at the heart of the global response to high food prices and uncertain food security. Rather than encouraging them to abandon farming to move to the world's growing cities, much can be done to improve farming as a livelihood and to make farming pay. There are some great examples in this issue of ***Southern Innovator*** of how small-scale farmers can use agribusiness models to become more profitable and efficient.





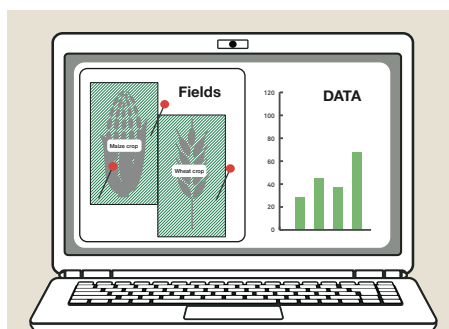
New Technology to Support Small-scale Farmers

In the last five years, small-scale farmers have seen a transformation in the information technology they can access to manage their farms and become efficient. As mobile phones have become more readily available, the options available to a small-scale farmer have increased. Various companies and entrepreneurs have developed new applications (apps) and Internet platforms to help farmers.

These products tend to have a few things in common. They alter the power relationship between the farmer and middlemen and the markets. They provide crucial information such as market prices and weather in real-time. They can also help with keeping track of supplies and feed stock, make payments and save money, exchange information with other farmers and access advice services such as veterinary and health information.

Virtual City's AgriManagr in Nairobi, Kenya is one example. Calling itself an "advanced agromanagement" solution, it automates produce purchasing transactions and reduces costs while improving relationships with customers and suppliers. It allows the management of weighing, grading and receipting of produce collected from each farmer at the collection point. The system also allows farmers to pay suppliers using cashless transactions and track and reward their most loyal customers and suppliers. – (June 2012)

virtualcity.co.ke/?p=869



Small-scale farmers can access mobile phone and Internet platforms to manage their work

Quick Facts

- More than 90 per cent of Nigeria's estimated 155 million people (US Census Bureau) live on just US \$2 a day and many are small-scale farmers.
- More than 70 per cent of Africans earn a living off the land.
- Africa has the largest quantity of unproductive – or unused – potential agricultural land in the world.
- The International Fund for Agricultural Development (IFAD) (www.ifad.org) called in 2008 for small family farms – which sustain the livelihoods of more than 2 billion people – to be put at the heart of the global response to high food prices and uncertain food security.

Carbon Markets Need to Help the Poor

The global carbon credit trading schemes emanating from the Kyoto Protocol have created a multi-billion-dollar market – the global carbon market was worth US \$30 billion in 2007 (World Bank) – and represents one of the fastest-growing business opportunities in the world.

The Clean Development Mechanism (CDM) – where wealthy countries can meet their greenhouse gas targets by investing in clean energy projects in the South – could become directly beneficial to the so-called "bottom of the pyramid" (BOP) – the 4 billion who live on less than US \$2 a day.

One mechanism to make all of this work is the CDM Bazaar: officially launched in September 2007, it is about linking together buyers and sellers. – (March 2008)

cdmbazaar.net

Tractors in
2003 per 1,000
hectares of
arable land
Sub-Saharan Africa 1.3
Asia and Pacific 14.9



1 US dollar
spent on
agriculture saves
10 dollars in humanitarian
assistance for the
following year



80%
of land
preparation in
Africa is done by
hand



In sub-Saharan
Africa's rural areas, the
majority
are smallholder
farmers



Source: (FAO)

Securing Land Rights

The hotly debated issue of land rights for the poor has never been more relevant. There is mounting evidence that access to land rights can catapult the poor out of poverty and spur growth for the economy. Experience in India and China is now showing the economic power unleashed when the poor gain full legal rights over their land.

But the urgency of this problem can be seen in the numbers of rural poor, many of whom will migrate to the world's fast-growing cities. In China there are 800 million, in India the rural poor number 270 million and 70 per cent of Africa's 888 million (2005, UN) are rural poor.

The Rural Development Institute (rdiland.org), an NGO based in Seattle, Washington, USA – and with offices and projects in India, China, Indonesia, Russian Federation, Africa – uses

Q & A

Kenya's eMazingira website (emazingira.org) is enabling people to identify potentially destructive practices that harm the environment – unregulated forestry, pollution, dangerous animals, land degradation, climate change – and alert others to what is happening.

SI Why did you set up eMazingira and what problem is it trying to address?

We got to know about Ushahidi during its first deployment, which was in Kenya, when it was used to map post-election violence incidents in early 2008. We were inspired to develop eMazingira, on one hand, because of the passion we had for environmental conservation and on the other hand, from the success stories we had observed of Ushahidi (ushahidi.com) deployments in Kenya, Haiti and Japan.

SI But how easy is it to build this technology and what advice would you give somebody who wants to create a web platform?

I would advise them to get in touch with the Ushahidi team through their website and by doing so the deployment will be easy and fast and there will be adequate assistance in case of any challenges.

Dunston Machoka
Director of BTI Millman Limited
(www.btimillman.com), a custom software development firm leading the project.
Nairobi, Kenya

lawyers to advocate and fight for land rights for the rural poor. To date, RDI has helped provide land rights to more than 100 million poor families worldwide. Their approach is called micro-owning whereby the poor are helped to acquire land assets. – (February 2007)





Savvy Businesswoman Wants African Farming to Be Cool

Can farming be cool? Especially in Africa where it has long been associated with hardship and poverty, can agriculture be attractive to a young generation looking for big opportunities? A young woman in Nigeria thinks so and is on a mission to show that farming is a great way to get ahead in modern Africa. And she hopes more people attracted to farming will boost the continent's food security and reduce costly imports.

Cynthia Mosunmola Umore's company, Honeysuckle PTL Ventures, or Farm Shoppe, is based in Lagos, the business capital of Nigeria. The West African country has become dependent on food imports, despite many attempts to modernize its agricultural sector.

The country's heavy dependence on oil exports for its income has led to poor investment in its domestic economy. Over 80 per cent of Nigeria's university graduates struggle to find work. And it is these two problems – food security and high unemployment among the country's young, educated and ambitious – that Umore wants to solve.

Leading by example, Umore has set up a successful and modern agribusiness focusing on high-quality food products using modern packaging and fast delivery. She produces meat products, from seafood such as shrimps and prawns to snails, beef, chicken, and birds. Her niche is to deliver the product however the customer wishes: fresh, frozen or processed. Her business has its own farms and ponds but also has developed a sophisticated network with other farmers, providing them with standard contracts and benefits. This extra capacity means she can meet demand and handle large volume orders.

She is proudly self-taught. "I didn't have a mentor in farming! Though I have other mentors," Umore told the Guardian Life Magazine. "My knowledge of agribusiness has been largely from personal education and research. The Internet has served greatly as my resource bank."

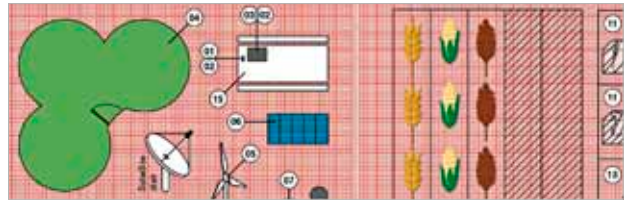
Umore was initially on the path to study medicine but had that dream upset by riots in the late 1990s. She then moved on to study zoology at Lagos State University. In her final year, she became interested in agribusiness. Her company was officially registered in 2004, but she had already begun at university providing meat products to fast-food outlets in Lagos.

"It took five years to gain relevance," she said. "My

Get some ideas on how to create a 21st century "smart" farm and also how to start an agribusiness that will get noticed.



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Go to page 28

involvement in the agribusiness sector is really impacting people, particularly young people like me, who I always hear say 'If you are involved with farming then it is probably not as bad as it seems'. Farming, before now in Nigeria, was termed a business of low-lives and with the barrier to entry being so high for young people to actively participate.

"I have successfully, in my little way, impressed on my generation that farming could be glamorous and cool enough for us to trade places with the business executive in the large conglomerate and also the bank's middle management cadre, which is the initial attraction for most young graduate(s) in Nigeria."

She is not shy talking about how rough it was in the beginning: "As a young entrepreneur, in my very early days, I lost a lot of the seed capital I got from financial mentors to poor and bad business decisions I took because there was no one to talk to."

The irony is that Nigeria has already hatched one of the world's most successful food companies, the global food supply company in 'agri-products' Olam. It shows Umore is onto something – a Southern brand can grow and go global, and overcome the difficulties of cross-border trade in Africa.

"I have been able to reach out to so many people across the nation, preaching the agribusiness development and adoption gospel," said Umore. "I have also worked closely with other youth agencies to empower many more young people to aspire in Nigeria."

– (May 2010)

•**World Vegetable Center:** The World Vegetable Center is the world's leading international non-profit research and development institute committed to alleviating poverty and malnutrition in developing countries through vegetable research and development. **Website:** avrdc.org

•**2050: Africa's Food Challenge:** Prospects good, resources abundant, policy must improve: A discussion paper from the Food and Agriculture Organization (FAO). **Website:** fao.org/wsfs/forum2050/wsfs-background-documents/issues-briefs/en

•**African Capital Alliance (ACA)** is a leading private-equity firm focused on Nigeria and West Africa. **Website:** aca-web.com

•**Branding Strategy Insider:** This blog provides advice and case studies on how to build trust for your brand. **Website:** brandingstrategyinsider.com

Food Diplomacy Next Front for South's Countries

A meal is a universal bonding ritual, a time for families or friends to socialize and catch up on the day's activities. Food has the ability to transcend cultures and societies when humour, the arts, and diplomacy cannot. So it's no surprise that countries in the South are turning to cuisine as a new weapon in their armoury of diplomacy and cultural outreach.

The phenomenon of modern "gastrodiplomacy" got its start in Thailand. Thai cooking and restaurants had been on the rise around the world since the 1980s. But in 2002, the Government of Thailand decided to use these kitchens and restaurants as new cultural outposts to promote brand Thailand and encourage tourism and business investment. The "Global Thai" campaign sought to increase the number of Thai restaurants around the world and boost Thailand's cultural impact.

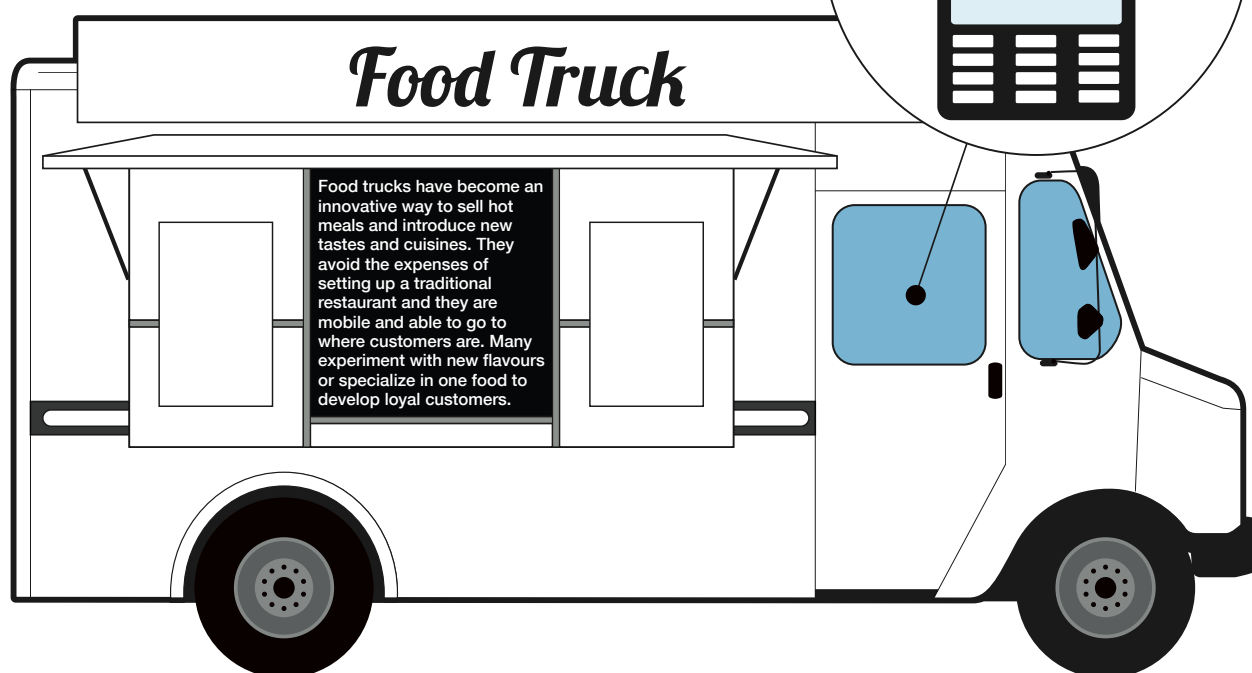
The Republic of Korea also has been pursuing its "Kimchi" diplomacy, an ambitious US \$44 million campaign to promote Korean food, or "hansik" as it is known, to more countries. The goal is to make Korean food one of the five most popular cuisines in the

world. Using a master plan, the Republic of Korea is opening Korean cooking classes at top culinary schools such as France's Le Cordon Bleu and the Culinary Institute of America, increasing the number of overseas Korean restaurants to 40,000 by 2017 and promoting the food's health qualities. The Korean staple of kimchi – a fermented, spicy cabbage dish – will be perfected at a "kimchi institute" to appeal to foreign palates.

One example of how gastrodiplomacy can work on the ground is the **Kogi Taco Truck**, which serves up Korean-Mexican fusion food in Los Angeles, California. This food truck moves around the city and uses social media such as Twitter to notify customers and fans of its location. The truck quickly developed a cult following and had lines lasting two hours as people ordered barbecued beef tacos topped with Korean "salsa roja" with coriander, onions, cabbage and a soy-sesame chilli dressing.

A passionate promoter and chronicler of gastrodiplomacy is **Paul Rockower**, Communications Director of the **Public Diplomacy Corps**. He noted on the Nation Branding website that "a keen eye for the irreverent is a must if you really want to make the nation brand stand out. Highlighting exotic tastes and flavors, and engaging in non-traditional forms of public diplomacy help under-recognized nation brands gain more prominence in the field of culinary and cultural diplomacy."
– (December 2010)

kogibbq.com
nation-branding.info





West African Chocolate Success Story

A Ghanaian chocolate company has become a big success in the United Kingdom and has shown how it is possible to develop and market a high-quality product grown in West Africa. While the chocolate bars are manufactured in the Netherlands, the cooperative that owns the company initiated the push into producing a mass-market chocolate brand – and shares in the profits.

The **Divine** chocolate brand is available in shops and supermarkets across Britain and is the product of the **Kuapa Kokoo** cocoa farmers cooperative. The Divine brand was launched in the U.K. in 1998 as the first **Fair Trade** chocolate bar aimed at the mass market. Previously, most Fair Trade chocolate was made for high-end customers.

Apart from the chocolate bars, the co-op also sells its cocoa butter to The Body Shop, a chain of natural beauty retailers.

In 1997, at the co-op's annual general meeting, members decided to create a mass-market chocolate bar of their own. Ambitiously, they did not want to just be a small, niche-market chocolate bar. They wanted to take on the big brands. They set up **The Day Chocolate Company** in 1998 and received support from a collection of international charities, aid agencies and businesses.

The Day Chocolate Company is structured to have two members of the co-op on its board of directors, with one out of four yearly board meetings held in Ghana. As shareholders, the farmers also receive a share of the profits of chocolate sales. Britain's chocolate market was worth £3.6 billion (US \$5.6 billion) in 2010 (Marketing Week) and the country has hundreds of chocolate brands, making competition for customers fierce. The Divine range of chocolate has been designed to match British market tastes.

The cooperative does all the processing of the cocoa and delivers it to market. One of the great advantages for the farmers is the honest weighing of the beans – something previous buying agents would cheat



The 70 per cent cocoa chocolate bar.



The exotic pepper chocolate bar.



The 44 per cent cocoa chocolate bar with arabica coffee nibs.



Cinnamon and sakay pepper chocolate bar.

Developing a Branded Product Line

The Madecasse Chocolate company is based on the African island of Madagascar. It wants to reverse the trend of cocoa beans being exported out of Africa to be manufactured into chocolate products. It has developed, with its Madagascan chocolatier **Shahin Cassam Chenai**, a range of chocolate bars using flavours based on Madagascan spices and tastes. The chocolate bars are presented in attractive packaging and are sold to US supermarkets, priced to attract a higher-paying customer.

Madecasse.com

at. Creating a more efficient and fair process means greater savings on the price paid for the beans, and this is passed on to the co-op's members.

The farmers are also trained to do tasks such as weighing and bagging the cocoa, removing the need for outside help. Every year the farmers receive cash bonuses based on the co-op's profits and any efficiencies made. With this success, Kuapa Kokoo grew and now has more than 40,000 members spread over 1,300 villages.

Kuapa Kokoo sells around 1,000 tonnes of cocoa every year to the European Fair Trade market. This has many advantages for sellers if they meet certain conditions. These conditions include health and safety requirements and democratic decision-making. If they are met, the producers receive a guaranteed price for their goods and long-term trading contracts. This means a stable price despite market fluctuations. With a stable price, it is easier to plan and save money.

– (April 2010)

Connoisseur Chocolate Surges in South

Like coffee beans, cocoa beans are grown around the world and are a major commodity, highly prized in wealthy countries. West Africa accounts for 70 per cent of the world's output, with the rest grown either in Indonesia and Brazil (20 per cent), or on a smaller scale in countries across the South, from Belize to Madagascar.

Global sales of cocoa beans have grown by an average of 3.7 per cent a year since 2001, and the World Cocoa Foundation estimates 40-50 million people depend on cocoa for their livelihood.

Consumers are developing ever-more-sophisticated tastes for chocolate, paying more attention to the quality and origin of the beans. Savvy cocoa producers are using this greater awareness to increase prices for farmers and improve conditions for those who work on the farms.

Maturing consumers' palates are now picking chocolate and other food products from the South in much the same way as connoisseurs pick wines.



The 70 per cent cocoa with exotic tsiperifery pepper chocolate bar.



The 63 per cent cocoa and pink pepper and citrus chocolate bar.

British consumers willing to pay more for ethical products are at the forefront of a global surge in Fair Trade. **Hans Vriens**, chief innovation officer with Belgian chocolate makers **Barry Callebaut**, told *The Independent* newspaper: "Nowadays, chocolate consumption is coming to resemble the way we enjoy wine: we sample and compare different tastes." – (June 2008)

• **International Cocoa Organization**, a good source of current data on the trade.

Website: www.icco.org

• **The Fairtrade Labelling Organization** sets the standards for Fair Trade and is the place to go to receive official certification.

Website: www.fairtrade.org.uk



Meet Southern Innovator

The second issue

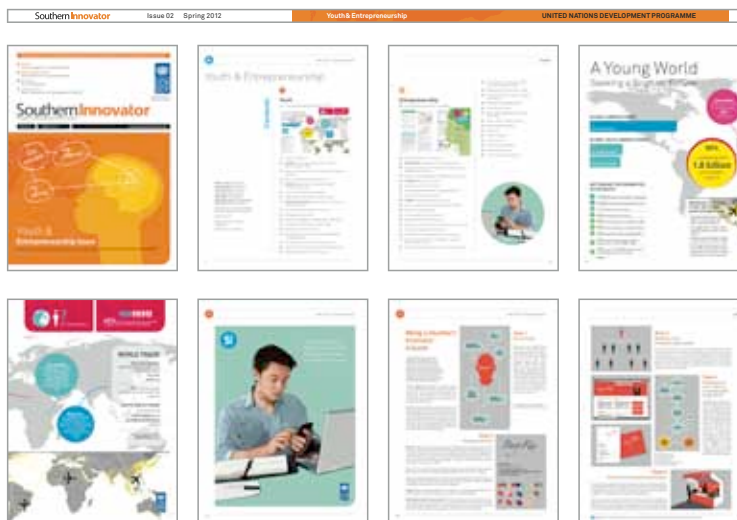
Southern Innovator comes packed with stories, images and contact details about a new generation of pioneering innovators across the global South.

Global reach

SI is distributed around the world, from the buzzing new urban megacities of the South to the poorest places on earth.

Stories to learn from

There isn't a better way to learn than from others in the same situation. SI's stories share details on success and innovation and have links to resources – so readers can get down to work.



Rich infographics

Complex data and trends are transformed into clear graphics for ease of understanding.

Eye-catching illustrations and graphics

Concepts are reinforced through visual images to aid understanding.

Getting connected

Southern Innovator is packed with resources and is backed up with a website and monthly e-newsletter. Each issue is intended to provide inspiration and practical information to get started on the journey to being a Southern Innovator!



Small-scale farmers
can now turn to
mobile phones and
“apps” to increase
efficiency



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Rainforest Gum Gets Global Market

Mexico is home to the second-largest rainforest in the Americas after the Amazon jungle. But the country's forests face serious threats from logging, cattle ranching and agriculture. As much as 80 per cent of Mexico's original forests has already been lost.

A group of Mexican farmers is now using sophisticated product marketing to preserve their income, and the 1.3 million hectares of rainforest as well. They are called *chicleros* and they harvest the gum needed to make natural chewing gum, a once-booming industry laid waste by the arrival of synthetic chewing gum in the 1950s. Their story is an excellent example of how a declining industry can turn things around with a smart plan and sophisticated marketing.

A collection of 56 cooperatives comprising 2,000 *chicleros* – **Consorcio Chiclero** – is now making, marketing and selling its own brand of chewing gum: **Chicza**. The *chicleros* are supporting a community of 10,000 people across the three states of Yucatán, Campeche and Quintana Roo.

Gum has been chewed in Mexico to clean teeth as far back as the ancient Mayan people in the second century AD.

The gum-harvesting business was dying out and young people, put off by the low pay, were leaving for jobs elsewhere. The administrators of the *chiclero* cooperative created the **Chicza Rainforest Gum** brand to save the industry. They made a deal with Britain's Waitrose supermarket chain, which specializes in fair trade products, and the gum is being launched in 100 stores.

The brightly coloured packages of chewing gum are being sold as organic and promoted as a way to preserve the forest. Frustrated by the decades of decline and attendant poverty and community decay, the *chicleros* decided to take matters into their own hands. Five years ago, they decided to avoid the middlemen who would buy their raw gum products, and instead manufacture and market the chewing gum themselves. And it is paying off: by adding value to the raw product, each farmer's income has grown six times higher than he would earn as a mere provider of raw material.

The gum comes in three flavours: wild mint, heirloom lime and spearmint. Future flavours will blend tropical fruits, herbs and spices.



The Chicza chewing gum brand uses original packaging to show it is different from more mainstream chewing gum brands. It proudly proclaims it is Mayan Rainforest chewing gum and comes in an artfully designed wallet-sized green cardboard packet. It also markets itself as a cost-effective solution to the damage done to city pavements and sidewalks by non-biodegradable chewing gum.

The Consorcio Chiclero coordinates the production, the logistics, the trade and the finances for the manufacture of gum from the chicozapote tree (*Manilkara zapota*).

Certified organic, the Chicza gum is completely natural and free of synthetic ingredients and also biodegrades when it is discarded – a boon to city governments, which hate the mess and cost of traditional gum left on sidewalks.

And despite the global recession, the *chicleros* are optimistic they can do well: during the Great Depression of the 1930s, chewing gum was an affordable treat and sold well.

– (April 2009)

chicza.com

•**Design that Matters:** Design that Matters (DtM) was founded to help social enterprises in developing countries scale up enterprises more quickly by providing them access to better products designed specifically for their business needs.
Website: designthatmatters.org



Açaí Berry Brings Prosperity to Amazon's Poor

A formerly obscure berry from the Amazon rainforest in Brazil has become a global marketing success. The açaí berry – a dark, small fruit similar in appearance to blueberries – has surged in popularity around the world and brought new-found prosperity to poor communities.

The açaí berry has seen its popularity take off because of its purported antioxidant properties. It is marketed as a way to reduce cancer and heart disease, although hype has sometimes portrayed the benefits to be higher than scientific studies have found. But whatever the truth of the berry's overall health-giving properties, it has become an economic success story in Brazil.

First exported from Brazil after 2000, the berry is now sought by health-conscious consumers and the diet industry for its health-giving and slimming properties.

Harvesting the berries is providing poor communities with an alternative source of income in the Amazon rainforest. And the successful marketing and selling of the berries offer a good example to others trying to improve profits for agricultural products from the South.

Prior to its global popularity, a bowl of açaí berries was a staple for poor families in some parts of Brazil, where the pulp is traditionally eaten as a side dish. It is common in Brazil to see street vendors or shops selling crushed açaí pulp. Trendier places in Rio de Janeiro sell sweetened açaí berry smoothies. In Belem, the capital of Para State, two ice cream chains sell açaí-flavoured ice cream. A white and purple swirl of açaí and tapioca is a common favourite. Other treats include açaí candy and açaí tarts in bakeries.

Some claim the taste of the berry when sweetened is earthy, while left in a natural state it is more grassy. The berry grows wild on palm trees lining rivers, as well as on farms.

Orisvaldo Ferreira de Souza is an açaí farmer on the island of Itanduba, an hour by boat from the town of Cametá, population 117,000. Açaí harvesting has become the main livelihood for many families in the area. Orisvaldo harvests açaí from 8,000 palm trees on a 14-hectare (34 acres) farm.

"Two or three years ago, we had a lot of trouble selling the product," he told the *New York Times*. "We had to bring it to town, and sometimes we came back without selling it."

But times have changed and the buyers now come to the farmers.

"Just yesterday, six buyers came by," he said. "We sold 10 baskets each to two of them."

At the **CAMTA** cooperative in Tomé-Açu, a town with a population of 40,000, the berry is a significant source of income. The

co-op's director, Ivan Saiki, notes the boost to local incomes: "Before the boom, the harvest came and the açaí was worth practically nothing. Before, nobody had television, nobody had a motorized canoe. Now many have their own electricity at home. It's greatly improved the life of the river communities."

“ Before the boom, the harvest came and the açaí was worth practically nothing ”

The co-op has a fruit pulp processing factory to improve the profits for the farmers and, by controlling quality, raise the reputation for their products. In order to avoid over-dependence on one commodity, the co-op members grow many other fruits as well, including papaya, mango, lemons, and local favourites abricó, uxi and bacuri.

Another initiative is **Sambazon** (Sustainable Management of the Brazilian Amazon). This small company, founded in 2000, combines business with a partnership to ensure local communities benefit from the berry's success story. Sambazon buys the berries from over 10,000 people in the Amazon and is certified organic. Through its SAP (Sustainable Amazon Partnership), over 1,100 local family farmers are able to harvest açaí berries as an alternative income source to logging, cattle ranching and monoculture plantations – all of which are threats to the Amazon rainforest. The company sells a range of products, from sorbet to supplements to juices and energy drinks. It also uses athletes to promote the products and encourage a healthy lifestyle.
– (May 2010)

camta.com.br/companyE.htm
sambazon.com

• **Just Food** is a web portal packed with the latest news on the global food industry and details of events and special briefings to fill entrepreneurs in on the difficult issues and constantly shifting market demands.

Website: just-food.com

• **International Cooperative Agricultural Organisation:** The ICAO is the democratic organization representing agricultural cooperatives and farmers worldwide. **Website:** agricoop.org

• An article about research into the açaí berry.

Website: sciencedaily.com/releases/2008/10/081006112053.htm

Trade Benefiting the Poor Continues to Grow in Hard Times

The global Fair Trade market – in which goods and services are traded under the Fairtrade logo, guaranteeing a minimum price to producers, is experiencing unprecedented growth. In the UK alone, 2011 sales totalled £1.17 billion (US \$1.82 billion), growing from £836 million (US \$1.3 billion) in 2009 (The Fairtrade Foundation). The Fairtrade Foundation found “shoppers are continuing to embrace Fair Trade, showing no downturn on ethical values despite the tough economic times”.

The concept of “Fair Trade” began in the Netherlands in 1988, when the Max Havelaar Foundation launched the Fairtrade consumer label with coffee from Mexico. Unlike conventional businesses, where the price paid to a producer is what the market dictates, Fair Trade guarantees the producers a minimum price for their product. This amount is set at a level that ensures the producer can live a life with dignity and meet all the essentials. A portion of the profits is also kept in a communal fund which the producers democratically elect to spend as they wish (many choose to spend it on community projects).

Fair Trade has been criticized for a number of reasons. It has been seen as too small and marginal to really make inroads on poverty, and has been accused of privileging a small number of producers while ignoring the rest. It has also been criticized for not focusing enough on innovation and increasing production to really eradicate poverty in the developing world.



Fair Trade wines from around the world.

In 2005 Fair Trade sales were € 1.1 billion (US \$1.37 billion) in the brand's main markets of Switzerland, the UK, New Zealand, Australia and the US. Globally, Fair Trade works with 5 million farmers in the South, and it represents an ever-increasing opportunity for Southern entrepreneurs.

A tipping point has been reached in Western awareness of and demand for the Fairtrade brand and concept, and it is now being adopted by major supermarkets. In the UK, 62 per cent of consumers know the logo and understand what it means.



A mix of Fair Trade products, ranging from pineapples to quinoa to muesli.



→ For all its faults and shortcomings, it is a fact that the Fairtrade brand is a runaway success and offers a wide range of opportunities for entrepreneurs.

In the UK, Fair Trade now includes 2,500 products, ranging from footballs, to tea, cotton and honey – up from just 150 in 2003, an astonishing rate of growth. Where Fair Trade products were once confined to cooperative and charity shops, they are now widely sold in major supermarkets.

The success of Fair Trade is not confined to Europe and the US. It is growing in Japan, where, says Fair Trade retailer **Sonoko Iwasa**, “the concept of using trade to equalize the world by buying goods from developing countries from Asia and Africa was a notion that had no connection with everyday lives.”

Iwasa’s **Rumaba Goods** store just outside Tokyo sells organic chocolates from Africa, woollen gloves and hats from Nepal, and elegant clothes from Thailand. Iwasa found that the key in the highly competitive Japanese consumer market was to focus on quality, not fairness. This, she says, has made these products fashionable.

At present, the Fair Trade market is worth only about US \$6 million to \$7 million a year in Japan and includes 1,500 products. But according to **Michiko Ono** of Japan’s best-known Fairtrade label, **People Tree**, the trend is catching on among the country’s socially aware youth.

To start a Fair Trade business, entrepreneurs or producers need first to contact the international body that certifies Fair Trade products and ensure that production meets the ethical standards required.

– (March 2007)

• **Ten Thousand Villages:** An online Fair Trade shop selling handicrafts from around the world.
Website: www.tenthousandvillages.com

• **Agbanga Karite:** A Togo-based African-owned online retailer selling products made from unrefined shea butter, including soaps, creams and oils.

Website: www.agbangakarite.com

• **Ananse Village:** A Fair Trade online shop vending a wide range of crafts and products from Africa’s villages.

Website: www.anansevillage.com



Cotton Farmer



In order to be classed as Fair Trade (wfto.com), a producer must meet a strict set of criteria governing how people and the environment are treated. The Fair Trade scheme pays farmers a higher price for cocoa beans, for example, calculated on the basis of world market prices, plus Fair Trade premiums. Fair Trade ensures a minimum price under long-term contracts, with access to credit, and prohibits abusive child labour and forced labour.

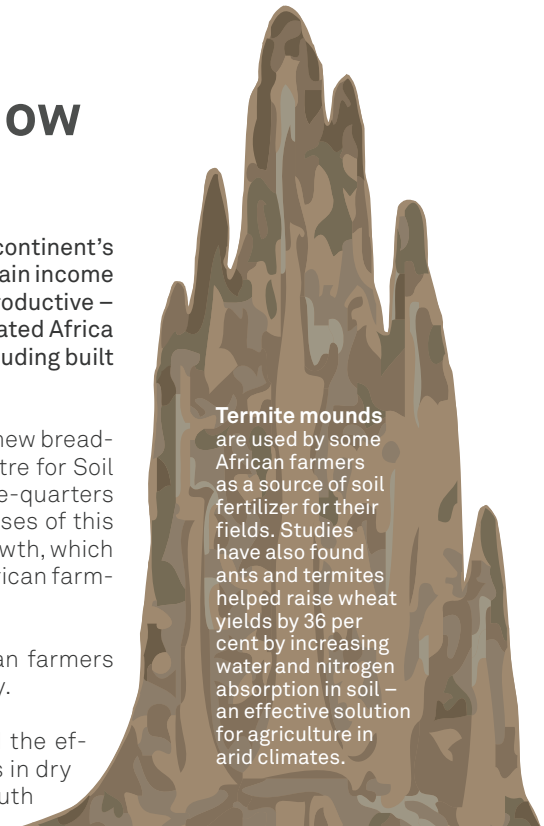
African Farming Wisdom Now Scientifically Proven

Increasing the agricultural productivity of Africa is critical for the continent's development, and the world's. Two-thirds of Africans derive their main income from agriculture, but the continent has the largest quantity of unproductive – or unused – potential agricultural land in the world. The FAO estimated Africa has the potential to use 300 million hectares for rainfed crops, excluding built up areas and forests.

This means the continent has the potential to become the world's new breadbasket – but there is a problem. A report by the International Centre for Soil Fertility found the continent had a “soil health crisis” and that three-quarters of its farmlands were severely degraded (New Scientist). The causes of this crisis include overuse of the same plot of land due to population growth, which prevents farmers from moving around, and high fertilizer costs; African farmers use just 10 per cent of the world average on their farms.

But a new study shows that an existing practice by some African farmers could help solve this dilemma if it were adopted by the majority.

At the University of Sydney in Australia, a study has confirmed the effectiveness of ants and termites as a tool to increase farm yields in dry areas. It found ants and termites in drier climates of the global South improved soil conditions just as earthworms do in Northern,



Termite mounds are used by some African farmers as a source of soil fertilizer for their fields. Studies have also found ants and termites helped raise wheat yields by 36 per cent by increasing water and nitrogen absorption in soil – an effective solution for agriculture in arid climates.

wetter and colder climates. Both termites and ants, by burrowing their way through the soil, carve out tunnels that make it easier for plants to shoot their roots outwards in search of water.

In field experiments, ants and termites helped raise wheat yields by 36 per cent by increasing water and nitrogen absorption. This is critical for agriculture in arid climates.

While termites wreak havoc on crops such as maize (corn) and sugarcane, they are very useful for other African crops.

This research reinforces what has long been known to some African farmers. Long-held farmer tradition in parts of

West Africa uses termites to enhance soil by placing wood on the earth to attract them. By burying manure in holes near newly planted grains, farmers in Burkina Faso attract termites to the soil.

In Malawi, bananas are planted near termite mounds to encourage the creatures. In southern Zambia, soil from termite nests is harvested and used as top soil on agricultural land.

If more farmers adopted this practice, Africa could simultaneously address its chronic malnutrition and hunger problem and contribute to the world's food needs. As the McKinsey Global Institute (MGI) found, “With 60 per cent of the world's uncultivated arable land and low crop yields, Africa is ripe

for a ‘green revolution’ like those that transformed agriculture in Asia and Brazil.” – (January 2012)

•**World Vegetable Center:** The World Vegetable Center is the world's leading international non-profit research and development institute committed to alleviating poverty and malnutrition in developing countries through vegetable research and development.

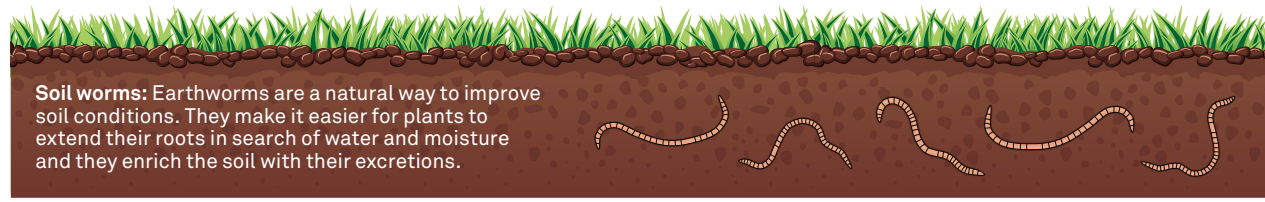
Website: www.avrdc.org

•**Ants and termites increase crop yield in a dry climate** by Theodore A. Evans, Tracy Z. Dawes, Philip R. Ward and Nathan Lo, *Nature Communications* 2, Article number: 262

•**Integrating Ethno-Ecological and Scientific Knowledge of Termites for Sustainable Termite Management and Human Welfare in Africa** by Gudeta W. Sileshi et al, *Ecology and Society*, Volume 14, Number 1. **Website:** www.ecologyandsociety.org/vol14/iss1/art48

•**State of the World 2011: Innovations that Nourish the Planet.** **Website:** www.worldwatch.org/sow11

•**Soil health crisis threatens Africa's food supply.** **Website:** www.newscientist.com/article/dn8929-soil-health-crisis-threatens-africas-food-supply.html



Soil worms: Earthworms are a natural way to improve soil conditions. They make it easier for plants to extend their roots in search of water and moisture and they enrich the soil with their excretions.



Putting Worms to Work

Overuse of pesticides is now acknowledged as one of the gravest mistakes of the Green Revolution, launched in the 1970s to dramatically increase food production in the developing world. Pesticides have polluted the environment, poisoned fertile soil, contaminated groundwater and damaged human health.

According to Tata Energy Research, 57 per cent of India's land is degraded. But the country, it is estimated, will need more than 45 million tonnes of grains per year to meet the country's basic food requirements by 2030. There is little arable land left to cultivate, so it is crucial to develop plants that are more resistant to pests and other diseases.

Two innovations developed at **Pantnagar University** – the home of the first Green Revolution back in the 1970s – are now set to spark a second Green Revolution, eschewing harmful chemicals and instead turning to nature to help.

Drawing on the field of below-ground biodiversity (the study of all the nutrients and life forms in soil), scientists at the university are harnessing the elements within the soil rather than placing chemicals on the soil.

Naturally occurring bacteria microbes have been isolated in the soil. It has been found that they are effective killers of pathogenic fungi diseases that affect plants. They do this by coiling around the fungi and destroying the cell walls of the pathogen. These naturally occurring bacteria effectively disinfect the soil of diseases, allowing the plant to flourish without the use of chemicals.

Pantnagar University has patented this technique and sells the bacteria suspended in 200 gram packets of talcum powder to farmers. These so-called bioinoculants can be sown with the seeds or put in manure that is being spread as fertilizer.

Another natural innovation in this second Green Revolution uses common earthworms to tackle animal manure. There are about 1.3 billion cattle in the world, 1 billion sheep, 1 billion pigs, 800 million goats and 17 billion chickens (FAO). This huge mass of animals produces vast quantities of manure – an estimated 3 billion tonnes.

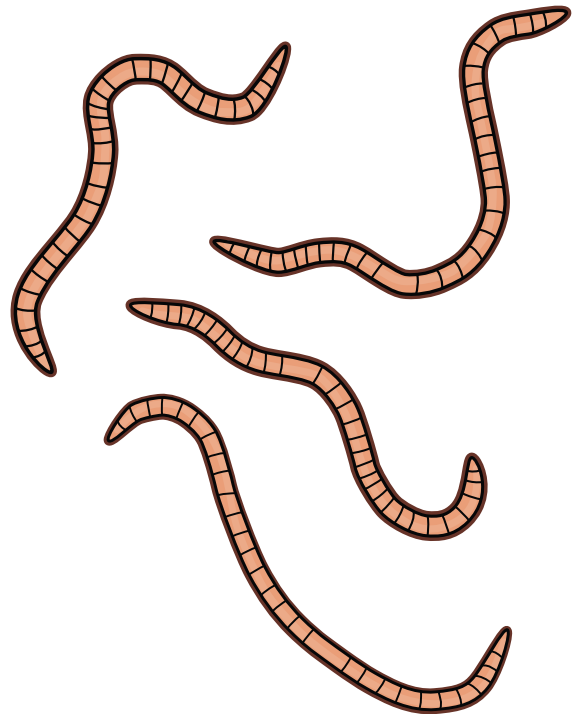
In 2006, an FAO report called animal manure “one of the top two of three most significant contributors to the most serious environmental problems at every scale.” Too much of it, and groundwater is contaminated and wetlands destroyed.

India produces millions of tonnes of livestock manure. **Dr. R.J. Sharma**, dean of veterinary and animal sciences at Pantnagar University, has found a handy way to rid farms

of manure and produce highly useful fertilizer (and extra income!) for agriculture by using epigeic earthworms, or vermicomposting.

Dr. Sharma explains that the herd of 750 cows and buffalo on his dairy farm were becoming a big problem: “Previously we had a problem disposing of this excreta, and we are dumping freshly in the fields and that fresh dung takes a lot of time to decompose and a lot of problems with insects and foul smelling,” he told the BBC.

The worms degrade the manure while increasing the manure's fertilizer qualities, creating more nitrogen and phosphorus, two essential ingredients necessary for growing crops. They were found to be excellent in breaking down manure from cows, horses, sheep and goats.



And Sharma discovered an added benefit to getting rid of this foul-smelling manure: he can make 30,000 rupees a day selling the fertilizer, while he is only making 20,000 rupees a day from selling his milk. And it only takes the earthworms between 40 and 50 days to turn this manure to money!

– (January 2008)

• **Global Soil Map** is an initiative building a real-time soil map.
Website: www.globalsoilmap.net

Camel Ice Cream Delivering Desert Dessert

The world's over 19.4 million camels (FAO, 2003) are now being tapped for their highly nutritious, healing and tasty milk. Camel milk is three times as rich in vitamin C as cow's milk. And it has several unique properties that differ from those of other milks, such as cow and buffalo. It contains enzymes with anti-bacterial and anti-viral properties to fight diseases. The milk also contains insulin, a hormone that regulates blood sugar levels, something that is critical to the survival of diabetics.

With more and more areas of the world suffering from severe drought or desertification, camels' renowned ability to go without a drink of water for up to three weeks makes them ideal animals. Camels continue to lactate even in a dehydrated state.

The current 5.4 million tonnes of camel milk produced every year isn't enough to meet demand. The Food and Agriculture Organization of the United Nations (FAO) is confident that with the right investment and innovation, camel milk has a potential market of a minimum 200 million people in the Arab world and many millions more in Africa, Europe and the Americas.

Fresh camel milk fetches roughly US \$1 dollar a litre on African markets. A world market worth US \$10 billion is entirely within the realm of possibility, FAO says.

"The potential is massive," said FAO dairy and meat expert Anthony Bennett. "Milk is money."

"No one is suggesting intensive camel dairy farming," said Bennett. "But just with improved feed, husbandry and veterinary care, daily yields could rise to 20 litres (per camel)."

An Indian NGO – the **Lokhit Pashu-Pala Sansthan** (LPPS), which supports landless livestock owners and means "welfare organization for livestock keepers" in Hindi

– is re-inventing the business model for camel herding in India. The LPPS is a canny user of publicity and has created products that are eye-catching and instant conversation starters: camel ice cream and camel-dung paper.

Produced in the Indian state of Rajasthan, the camel milk ice cream is being sold in shops and hotels. It comes in two flavours: kesar (saffron) and strawberry vanilla.

The camel is integral to the traditional way of life in Rajasthan and is the state's signature animal. India once boasted the third-largest population of camels in the world: over 1 million.

But that number has fallen to just 400,000. Grazing areas once just for camels are now being used by agriculture and wildlife sanctuaries. The camel breeders, the Raika people, have experienced a serious decline in income from camel herding and many have sold their camels for slaughter.

If there was to be a future for camel herding in Rajasthan, new products had to be developed and the whole business of camel herding re-branded.

The ice cream is part of a two-year project to help camel breeders develop new products using camel milk. Camels are seen as ideal animals to raise in the drought-afflicted climate of Rajasthan and can produce four to six litres of milk a day.

"With groundwater levels dropping rapidly, it spells the end of water-intensive agriculture. In this scenario, camel husbandry represents a perfect solution to the chronic water woes of the state," said **Bagdi Ram Raika**, president of the **Rajasthan Pastoralist Development Association**.

The highly inventive people at LPPS have also come up with paper made from camel dung. Handmade, the notebooks, diaries and greeting cards are all made from the dung paper. The camel's dung contains undigested fibre, which is an excellent material for making paper. – (April 2009)

www.lpps.org

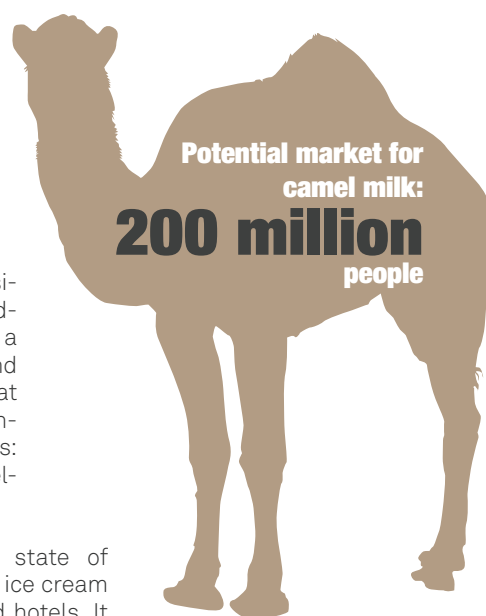
• **The Tiviski Dairy** in Mauritania is Africa's first camel milk dairy helping semi-nomadic herders.

Website: www.growinginclusivemarkets.org

• **Growing Inclusive Markets**, a new web portal from UNDP packed with case studies, heat maps and strategies on how to use markets to help the poor. **Website:** www.growinginclusivemarkets.org

• **Al Ain Dairy:** In the United Arab Emirates, this dairy was the first to launch a range of camel milk ice creams for the Middle East market. **Website:** www.alaindairyuae.com/productsmain.asp?catid=9

• A photo essay in the **New Agriculturalist** shows the herders at work harvesting the milk for the ice cream. **Website:** www.new-ag.info/09/01/picture.php





China's Booming Wine Market Can Boost South



A great South-South opportunity has emerged with the recent boom in wine drinking in China. Matching high-quality wine producers from the global South – including Chile, Lebanon, Morocco and South Africa – with China's thirsty wine drinkers could deliver a major income boost.

China has become the world's fastest-growing wine market with newly wealthy seeking sophisticated tastes and young working women seeking the health benefits of wine. Yearly wine consumption in China is expected to increase by 20 per cent to 126.4 million cases by 2014, a fact that is grabbing the attention of old- and new-world-wine producers.

Women are driving China's growing market for wine, which is perceived as a symbol of affluence, a benefit to health – in moderation – and good for the skin. A new report from the International Wine and Spirit Research (IWSR) group says wine consumption in China jumped 100 per cent between 2005 and 2009, from 46.9 million to 95.9 million cases.

Import taxes have been reduced as China entered the World Trade Organization (WTO), and this has prompted foreign wine brands to lunge into the market.

The government is trying to get people to switch from high-strength alcoholic drinks by increasing the tax on them – another boost for wine.

Awareness and experience vary widely amongst the winemakers of the global South. Some countries, such as South Africa, Chile and Argentina, have long-standing international reputations for producing quality wine and use sophisticated branding and marketing campaigns to connect with their customers. But other countries, including Lebanon, Tunisia and Zimbabwe, have lower profiles and do not pack the same brand punch. But all

these countries help show the role viticulture can play in economic development. By tapping into this Chinese wine-drinking boom, they could reap rich rewards.

In Lebanon, viticulture – the harvesting of grapes for wine – has prospered despite the country's wars and instability. Lebanon has a long and illustrious history of winemaking stretching back 5,000 years. The modern Lebanese wine industry dates from 1857, when Jesuit monks at Ksara in the Bekaa Valley began importing vines from Algeria. After World War I, when the French took control of Lebanon, its vineyard expanded to satisfy France's thirsty troops.

Then Lebanon was hit by the brutal civil war of the 1970s and 1980s. And things have remained unstable and uncertain since.

But despite this, well established businesses such as **Ksara**, **Kefraya** and **Musar**, and small boutique producers, thrive. Massaya is one of Lebanon's most dynamic and successful wineries, owned by brothers Sami and Ramzi Ghosn. They have been able to succeed in an area fraught with tension from past conflicts.

– (January 2011)

ksara.com.lb

chateaukefraya.com

chateaumusar.com.lb/english/cave.aspx

massaya.com/old/wine.htm

chateaubelle-vue.com



South Africa is one country that is seizing opportunities in the global wine marketplace and is using its thriving wine industry to boost exports and increase incomes for the country's majority black population.

• **China Wines Information:** A website with the latest news and events on China's fast-growing wine market.

Website: www.wines-info.com/en/index.aspx

• **Shenzhen International Wine Hub:** Shenzhen International Wine Hub is located in downtown Longgang, and is designed to provide an unprecedented one-stop platform for all wine-related business, integrating product exhibition, wine trading, wine information and statistics publishing, wine knowledge training, quality examination and evaluation and wine culture showcasing as well as food and recreation.

Website: www.szwinehub.com/en

Indonesian Food Company Helps Itself by Making Farmers More Efficient

Garuda Food, one of Indonesia's leading snack food and drink manufacturers, has been boosting its own productivity by investing in improving the productivity of domestic small-scale farmers. This led to a doubling of crop purchases from peanut farmers between 2007 and 2009. By stabilizing the market for peanuts and better guaranteeing income, it has attracted more people into becoming peanut farmers in the region.

This is crucial for the future of feeding the planet: we need more farmers.

Indonesia is the world's fourth-most populous country, with a population of over 238 million, spread out over a network of islands. Peanut farmers in West Nusa Tenggara (one of Indonesia's poorest places) are a key part of the region's wealth. Peanuts are the area's third-largest crop after rice, maize and soybeans, and the region supplies 6 per cent of the country's peanut production and 10 per cent of Garuda Food's needs.

Garuda Food says investing in farmers has raised its own productivity by a third. Turning past practices on their head, this large agri-food company is supporting small-scale farmers and helping them to boost their productivity and incomes. Conventional wisdom had been to view small-scale farmers as an inefficient hold-over from the past – the quicker they were driven out of business, the better.

The Indonesian peanut farmers were using traditional farming methods and local seeds. Knowledge of more sustainable farming methods and land management techniques was poor. The farmers were also subject to the whims of local buyers and fluctuating market prices.

Then Garuda Food stepped in. The company's field staff offer the farmers training, and through its subsidiary, **PT Bumi Mekar Tani**, it spreads knowledge about new agricultural practices and provides the farmers with quality seeds and farming equipment.

The company buys crops directly from the farmers rather than from middlemen, increasing the amount the farmer makes. A premium is also paid if the farmers achieve better quality for their crop.

"We receive a substantial supply from peanut farmers in NTB (West Nusa Tenggara) and we hope the arrangement will continue," Garuda Food's managing director **Hartono Atmadja** told the Enchanting Lombok website.

Garuda Food's initiative, with support from the World Bank's International Finance Corporation and AusAID, through the Australia Indonesia Partnership, has raised the productivity for 8,000 small-scale farmers by 30 per cent: an income boost for the farmers of 3.9 million Indonesian rupiah (US \$456) per hectare annually.

Peanut farmer **H. Sajidin** told the IFC (International Finance Corporation): "My farm's productivity doubled, my income improved significantly, and I can sleep peacefully at night knowing that Garuda Food will buy my crops at agreed prices."

Raj Patel, author of *Stuffed and Starved: Markets, Power and the Hidden Battle for the World Food System* (stuffedandstarved.org/drupal/frontpage), has grappled with the conundrum of how to feed a rapidly growing planet. He finds the world is not lacking in food, but distributes its bounty very poorly and wastefully, leaving a planet where some people



Garuda Food works with farmers to improve their efficiency, while simultaneously raising the quality of its products, like its popular packaged peanut snacks.

are literally "stuffed" with too much food (the well-documented global obesity crisis) and others left to starve.

He finds that the solution is often local.

"It turns out that if you're keen to make the world's poorest people better off, it's smarter to invest in their farms and workplaces than to send them packing to the cities," Patel wrote in *Foreign Policy*. "In its 2008 *World Development Report*, the World Bank found that, indeed, investment in peasants was among the most efficient and effective ways of raising people out of poverty and hunger."

– (May 2011)

garudafood.com

• **Embrapa**: The Brazilian Agricultural Research Corporation's mission is to provide feasible solutions for the sustainable development of Brazilian agribusiness through knowledge and technology generation and transfer.

Website: www.embrapa.br/english

• **Divine Chocolate**: The highly successful global chocolate brand from the Kuapa Kokoo farmers' cooperative in Ghana, West Africa.

Website: www.divinechocolateshop.com

• **Olam**: The highly successful global food product supplier brand which got its start in Nigeria, West Africa.

Website: www.olamonline.com



Civet Cat Coffee Brews Filipino Opportunity

In the Philippines, one animal's call of nature has become a business opportunity.

The civet cat, a member of the mongoose family, ingests the fruit of coffee plants and expels the beans. This has created an unexpected by-product: a prized beverage for the world's savvy coffee drinkers seeking the next taste sensation. The partially digested coffee beans are gathered from the faeces of the cat and used to make a much-coveted, smooth-flavoured cup of coffee.

It is a good example of how value can be added to a product, in this case coffee beans, producing a substantially higher income. The coffee is startlingly expensive: 50 grams cost US \$70, 100 grams US \$90, and 1 kilogram is a whopping US \$870.

The highly prized coffee is driving a growing market for these rare beans around the world. But as demand rises, it becomes clear that it is a market needing quality control and ethical practices.

One business that is trying to do this is **Coffee Alamid**, based in Las Pinas in the Philippines. It bills the coffee as the "World's Rarest Brew. The Philippines' Pride."

Coffee Alamid's founders, **Basil** and **Vie Reyes**, call themselves "coffee entrepreneurs" who started in the business from scratch.

"When we started Cafe Alamid, we were not even coffee drinkers," they explain on the company's website. "We didn't know anything about coffee at all!"

Experienced in making Arengga vinegar, they discovered that civet cats lived among the sugar palm trees used for making the vinegar. They did some research and were inspired by Kopi Luwak, the Indonesian variety of civet cat coffee, and wondered why they couldn't do the same thing in the Philippines.

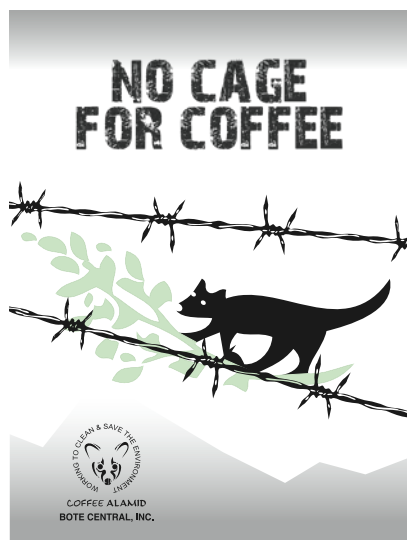
They consulted with the local forest-dwellers of Indang, Cavite and Batangas, who confirmed they gathered the civet cat droppings to make into coffee, in part for personal consumption, with the rest sold in local markets. Gathering the civet droppings provides an income to the forest residents.

Some were sceptical of the idea: why bother with such a time-consuming product? But the success of civet coffee in Indonesia inspired the Reyeses to try it in the Philippines. They see themselves as “enlightened entrepreneurs” who believe in marrying business with social development.

The coffee is made from the wild civet cat droppings harvested from the forest floors of mountains in Malarayat, Lipa, Batangas and Mount Matutum, General Santos and South Cotabato in the Philippines. The beans are roasted and exported to Australia, Italy, Japan, Republic of Korea, Taiwan province of China and the United States. The company produces between 1 and 1.5 tonnes of beans a year.

A proud moment for the business was becoming the first Filipino firm to participate in the Tea and Coffee World Cup in Geneva, Switzerland, in 2007.

The brand's name, Alamid, is the local name for the civet cat (*Paradoxorus philippinensis*). It belongs to the mongoose family and forages for food at night, eating the ripest and sweetest coffee cherries during the coffee season.



Coffee Alamid actively promotes the welfare of the civet cats and campaigns against unethical practices such as caging the cats.

By morning, the civet cats excrete the undigested beans. While inside the cat's stomach, enzymes and stomach acids go to work on the beans, altering their structure. The beans “ferment” in the cat's stomach, a process that has been analyzed by **Dr. Massimo Marcone**, a scientist from Canada's **University of Guelph**.

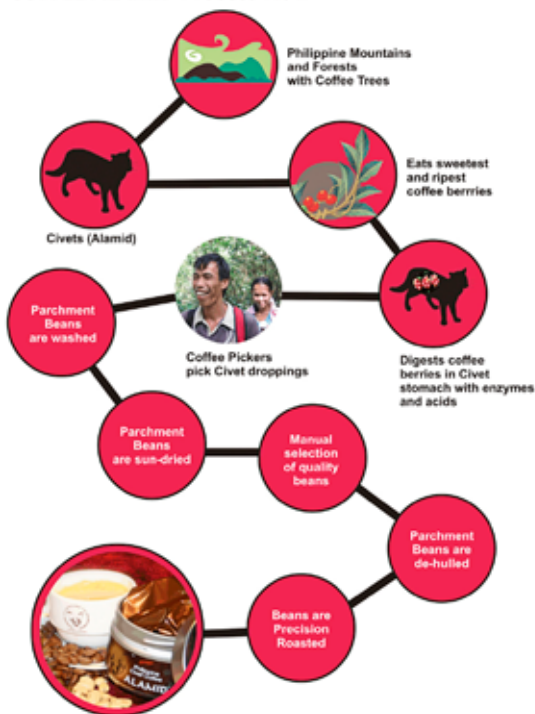
“The civet beans are lower in total protein, indicating that during digestion, proteins are being broken down and are also leaked out of the bean,” Marcone told the Luwak Kopi website. “Since proteins are what make coffee bitter during the roasting process, the lower levels of proteins decrease the bitterness of Kopi Luwak coffee.”

Supply is tight and this has led to some people forging the coffee or using unethical practices to get their hands on the beans. It is a business that needs to be run in an ethical way to ensure the rich profits are shared with everyone involved.

Marcone warns against imitations. “About 42 per cent of all the kopi-luwaks that are presently on sale are either adulterated or complete fakes, unfortunately,” he told the *Los Angeles Times*.

Coffee Alamid's parent company, **Bote Central**, started as a family-owned company in 2002, with the idea of using agro-forestry products

COFFEE ALAMID Process Flow



Coffee Alamid has developed an efficient process for harvesting, processing and selling the coffee beans.

to create sustainable livelihoods and help preserve the environment.

Structurally, the company uses community roasting business units (CRBU) across the Philippines, in particular the countryside, to improve the way coffee is sold and make it more profitable for local economies. There are currently 12 such units, and more are planned. The company has put together a guidebook on best practices for harvesting Arabica coffee beans based on their first-hand experience.

The company deals directly with farmers to avoid middlemen gouging profits and tries to use technology to make the business more efficient.

Coffee Alamid has successfully positioned itself as a high-end, high-cost product. It is sold by Japan Airlines and by department stores in Japan and specialty coffee shops around the world. It is also staunchly respectful of the civet cats themselves: Vie Reyes believes there is a strong “need to leave the civets wild and free. We are particularly concerned on how many civet coffee producers cage these animals for profit. We believe that we have to keep the respect for these wild civets who act as natural seed dispersers in the ecosystem of our forests.” – (June 2011)

arengga.com



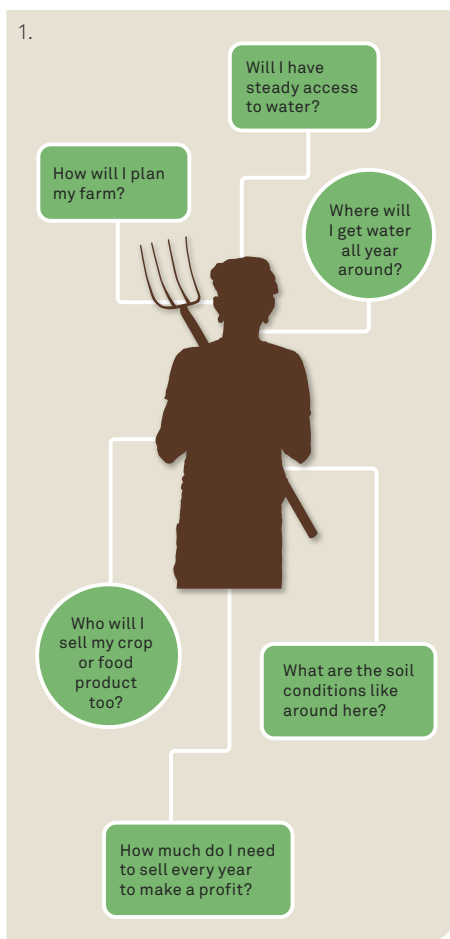
Being a Southern Innovator

An Agribusiness Guide

In researching this issue of the magazine, we identified some common steps that have made the difference between a successful small-scale farmer or farm and hardship and economic ruin.

Taking some time out to think about your enterprise – even for 30 minutes a day either before or after work – can make a big difference to your success. Nobody said it would be easy to be a farmer (and you probably know this already!), but it is possible to prosper as a farmer with the right knowledge and tools. Good luck!

In the scenario we have chosen here, the fictitious The Pepper Shop Farm goes through the difficult switch from being a small-scale, subsistence farm to a farm dedicated to growing a wide variety of high-quality peppers.



Step 1

Making up a master plan

If you are a farmer or have chosen to become a farmer or to run an agribusiness, you have already chosen a vocation highly dependent on the ways of weather and the volatility of the marketplace. More than any other endeavour, farming and food production require sharp attention to details and a clear and well-developed plan. For a farmer, planting the wrong crop or having too little or too much rain can make the difference between plenty and personal ruin and debt. Asking the right questions about why you are farming and what kind of farm makes sense for your situation is key.

1. Building a business model.
2. Designing your brand and logo.

Step 2

Designing food success

Brand: Many small-scale farmers have not thought about their brand or how to design their work. Yet putting even a small amount of time into this will pay big returns in the future.

Adopting an agribusiness mindset will reshape how you think about everything. This has the potential to change the power relationship for a farmer and reduces the stress of being reliant on forces far outside of your control.

Coming up with a brand and even a story about your farm will turn your hard work into something special: a good brand is unique to you and your venture. There are now 7 billion people in the world and global competition is fierce. A clear brand – the thing that people remember about you – does not have to cost much but it does have to be clear and understandable. Get this wrong and you may repel more people than you attract. It is not about just having a nice logo and design: it is about integrity and how close your actions match your words.

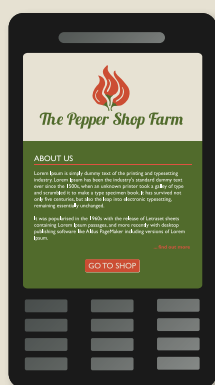
Look at how other food businesses/products/services represent themselves. Who do you think is successful at getting attention? How would you describe yourself to others or how would others describe you? What are your values? What are your strengths and weaknesses?



3.



4.



5.



Step 3

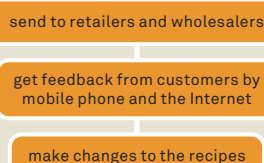
The Pepper Shop Farm as a planned business

Making the move from a small-scale, subsistence farm was a big challenge for The Pepper Shop Farm. It started with many sketches of how the farm's agribusiness could work and mapping out who would do what. It also involved the initial dream of one day being able to sell an own-brand pepper sauce. But there were many steps to take to get there, from learning about food hygiene to how to make and bottle the sauce.

6. MANAGING FARM WORKFLOW:



THE MARKETPLACE:



3. Products.
4. Company mobile phone shop.
5. Cookbook.
6. Managing your work flow.
7. Meeting the market.

Step 4

Managing your work: How are you going to get things done?

Once the farm had the idea of becoming a pepper products farm fully developed, they wisely took even more time to think about how they would change how they behaved and worked. This was a major challenge and there were many hardships to overcome and lessons to learn. They did this with a flowchart. It was simple and sketched out on a piece of paper and sometimes even on the wall of the home. The learning process was steep to get The Pepper Shop Farm up and running and the flowchart was changed many times to reflect the new insights and problems.

There has been a revolution in information technology in the past 10 years. Where farmers were once dependent on middlemen for an idea about market prices and future developments, mobile phones, the Internet and apps put information at their finger tips.

Step 5

The launch: Meeting the marketplace

The Pepper Farm Shop took things slowly at first. They were only able to produce small batches of preserved peppers and sauces. They received comments from customers and were pleased with the initial compliments but some people said they thought the sauce wasn't hot enough. But when an order came in for 1,000 bottles, the time spent planning paid off.

Any new venture requires plenty of hard work and the ability to adapt to new circumstances. The fictitious The Pepper Farm Shop took the time to plan and to brand its products.

7.



Explanation

There is a plethora of great ideas out there now to make farming in the global South an efficient and profitable business. And there are also many pioneers and innovators proving it is possible to thrive, even in the most arduous conditions. But, as has been noted time and again by many small-scale farmers across the global South, it is hard to get the right information and in a timely fashion. Or to find out about how others have made it work.

21st Century Agribusiness

Definition – Agribusiness: noun

1. agriculture conducted on strictly commercial principles; an organization engaged in agribusiness.
2. the group of industries dealing with agricultural produce and services required in farming.

Source: Oxford English Dictionary

In the past decade, a flurry of technological and scientific advances have redefined what a small-scale farm and farmer can achieve. There has also been significant innovation in business models and concepts proving being small can pay. While the concept of an agribusiness is often associated with large farms and with multinational companies, it is possible to build a 21st century “smart” farm. The many obstacles small-scale farmers face – poor access to information, markets and infrastructure, and high and volatile costs for inputs such as fertilizer – can all be overcome with the right “tools” to hand. These include the now ubiquitous mobile phone, the technological and communications story of the past five years, and many inexpensive tools that have been developed to reduce the physical strain on farmers when working. There are also innovative ways to generate electricity to power modern appliances and tools, even in remote, rural areas. And there are proven ways to tackle the soil fertility crisis in many countries and regions – a report by the International Centre for Soil Fertility found Africa had a “soil health crisis” and that three-quarters of its farmlands were severely degraded (New Scientist).

We think this fictitious 21st century “smart” farm can provide food for thought and point the way to a new approach to small-scale farming.

Read on!

COMPONENTS OF A “SMART” FARM

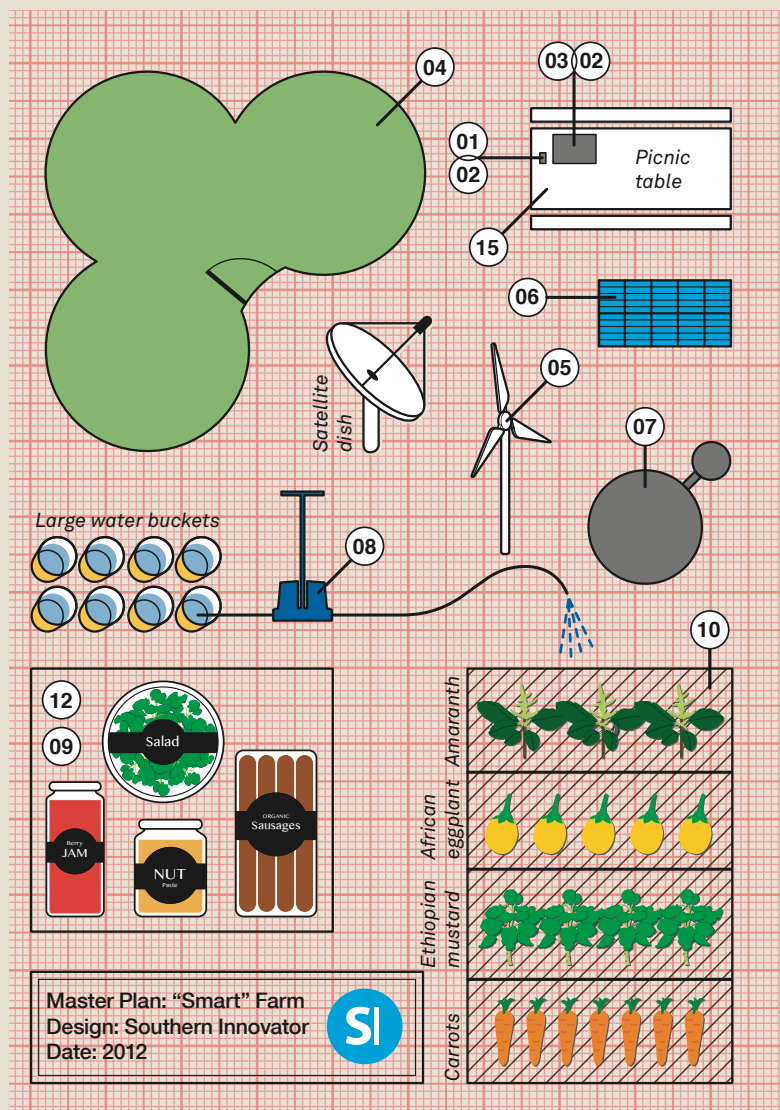
01 Mobile phone: A mobile phone or smartphone means it is possible to check the latest market prices, get weather updates, make payments, save money and store wealth, and receive loans and credit – all in this handy device.

02 Farmer apps (applications): A new market has emerged where technology innovators are now creating mobile phone and Internet applications with small-scale farmers in mind, altering the power relationship between the farmer and the marketplace.

03 Laptop computer: Prices are coming down all the time for laptop computers and many initiatives now exist to make cut-price personal computers and tablet devices.

04 Geodesic dome home: Invented by Buckminster Fuller (bfi.org/about-bucky/buckys-big-ideas/geodesic-domes), a pioneer in developing efficient shapes for human dwellings. These round dome homes are one of the most efficient interior atmospheres for human dwellings because air and energy are allowed to circulate without obstruction.

05 Windmill: Windmills have come along in the past decade. There are now low-cost windmills for generating electricity like the Night Heron Turbine made by Kenya's Access: energy (access-collective.com/energy). It uses locally found scrap materials to make the windmill.



06 Solar panels: Solar energy panels are also another technology that has advanced and become cheaper and more efficient. Many organizations and companies now sell solar panels and solar-powered appliances across the global South.

07 Biodigester: Biodigesters break down organic and biodegradable waste (animal faeces or farm waste) to create gas. A biodigester becomes a clever way to turn farm waste into useful gas for cooking and powering a generator.

08 Efficient tools: Inventors have been busily devising new ways to efficiently do common, everyday tasks. A wide range of hand-driven tools – from water pumps to brick-making and oil-pressing tools – has been developed.

09 Coop: 2012 is the United Nations International Year of Cooperatives (social.un.org/coopyear). Many farmers join together to form a cooperative. It is basically a business owned and operated for the benefit of its members. Each member contributes some of his/her money or assets and in return shares in the control of the cooperative on a one-person, one-vote basis.

10 Traditional vegetables: Despite being rich in vitamins, minerals and trace elements, African leafy vegetables have been overlooked in preference for cabbage, tomatoes, carrots and other imported produce. But with rising food prices at local markets, people are looking again at these neglected African vegetables. In East Africa, this includes indigenous plants like amaranth, African eggplant, Ethiopian mustard, cowpea, jute mallow and spider plant.

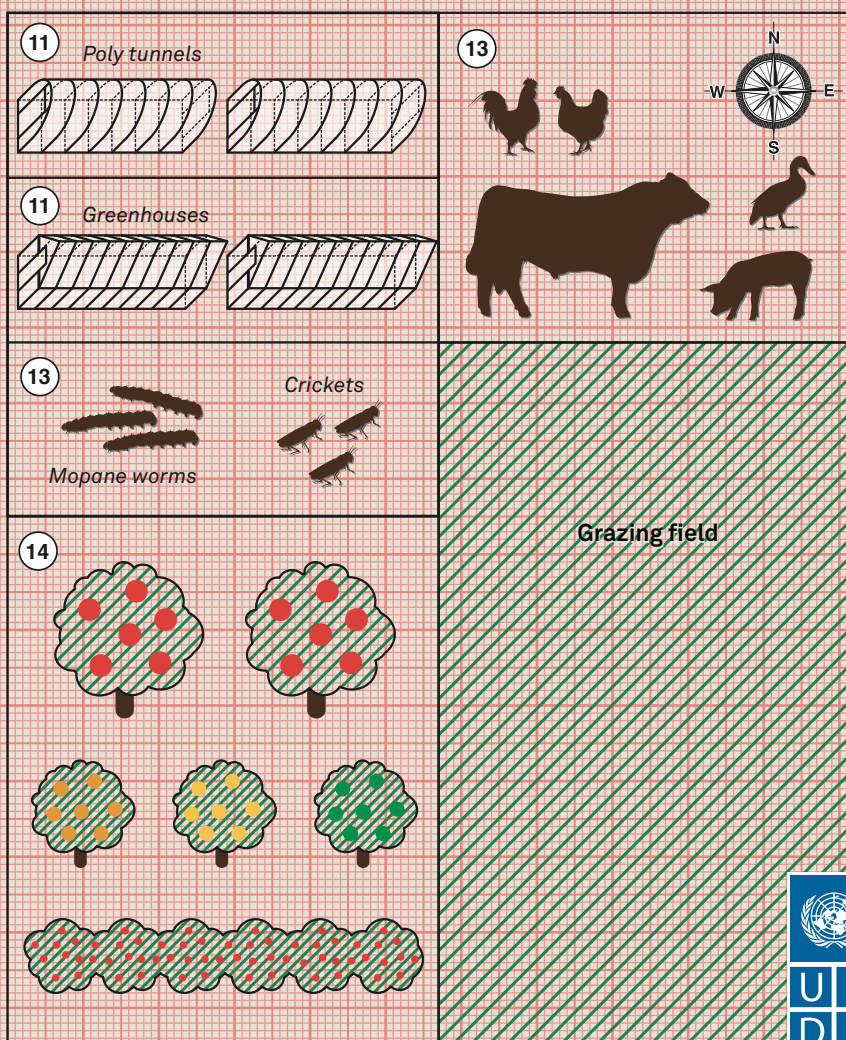
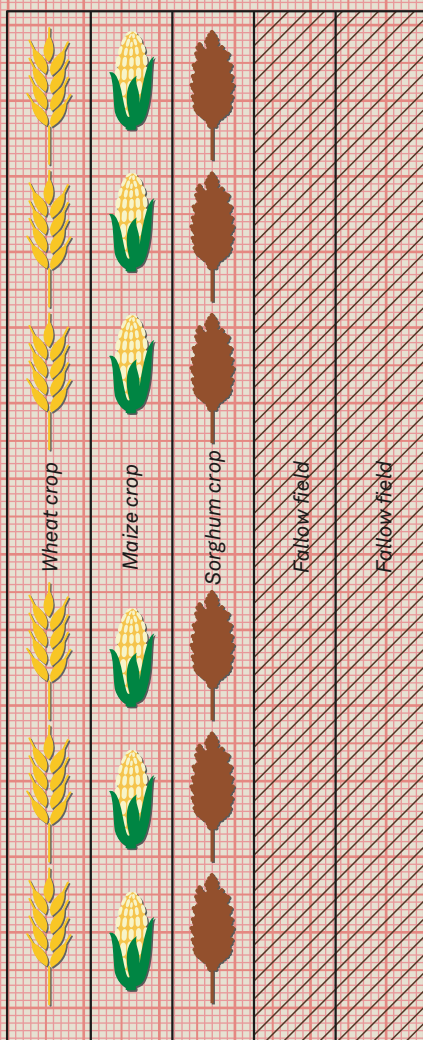
11 Greenhouse: Greenhouses can be a great way to extend the growing season for vegetables and fruits and maximize solar radiation to provide plants with the necessary light and heat to grow. They can be made from either glass or plastic.

12 Product branding: Branding your farm produce with an eye-catching logo and design can help people to remember you. Effective branding creates a relationship with your customers and clients and sets you apart in a crowded marketplace.

13 Animals and insects: Keeping animals on a farm is something most people expect. But what about insects, too? The UN's Food and Agriculture Organization of the United Nations (FAO) has been promoting the dietary value of insects as food. FAO has explored insect protein as a contributor to better nutrition; the economics of collecting edible forest insects; the harvesting methods, processing and marketing of edible forest insects; and ways of promoting insect-eating with snacks, dishes, condiments — even recipes.

14 Fruit trees and bushes: Fruits and nuts are an excellent nutrition source. In Central Asia, over 300 wild fruit and nut species are ancestors to the common fruits and nuts we eat today, including wild apple, plum, pear, pistachio, cherry, apricot and walnut.

15 Picnic table: Many farmers are using the growing trend of hosting meals for people to appreciate the origins of their food. There is nothing better than the taste of fresh food from the farm and this is becoming part of the itinerary of tourists who appreciate local cuisines. This can be a source of additional income for a farmer and his/her family.



Introduction

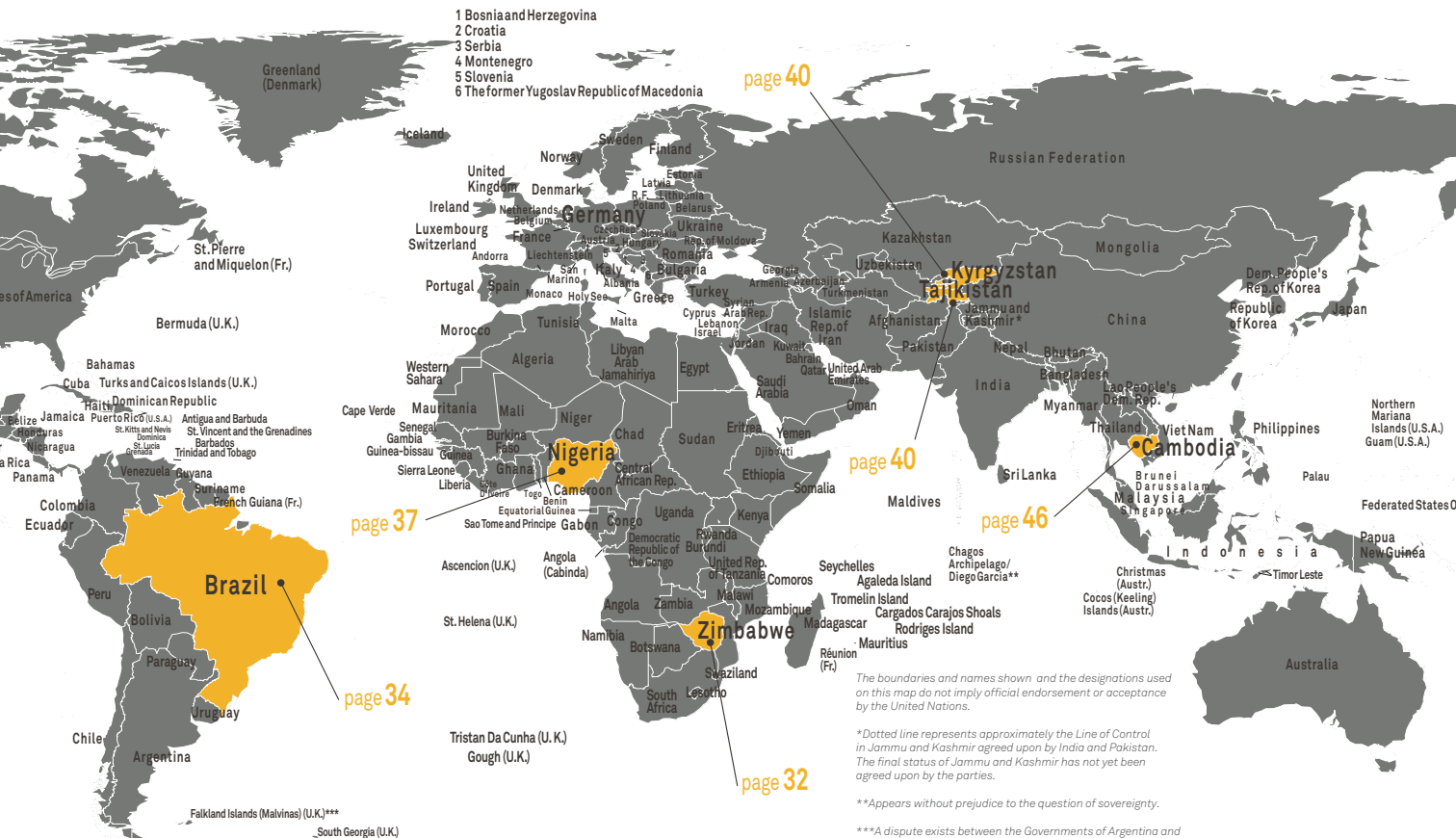
In the book *Stuffed and Starved*, Raj Patel points out that the world has plenty of food for its current population, but does a very poor job of making this food available to everyone. The reasons for this are many, as the book explains, but one of the best ways to improve access to food and make it more affordable is to build up local sources and resources.

As Patel notes, in Malawi it costs US \$400 a tonne to import food-aid maize, US \$200 a tonne to import maize commercially, but only US \$50 to source domestically with fertilizers.

With 862 million people in the world malnourished (FAO) and more people now having less money to buy food – a trend that was already under way before the current economic crisis and rising inflation – food security is a critical issue. The number of individuals living in extreme poverty increased by 3 million per year during the boom years of 2002 and 2007, reaching 421 million people in 2007 (UN). The world's least developed countries (LDCs) saw food imports rise from US \$9 billion in 2002 to US \$23 billion by 2008 (UNCTAD), a particularly disturbing number given that the majority of the world's farmers live in the global South.

FAO defines “food security” as existing when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life.

This issue of ***Southern Innovator*** features innovative ideas from the global South to boost food security and make food more plentiful for the world's poor.





Picking Money from the Baobab Tree

The fruit of the highly revered African baobab tree is being seen as a great new opportunity for the poor, after a recent decision by the European Commission to allow its importation. According to one study, gathering the fruit has the potential to earn an extra US \$1 billion a year for Africa and bring work and income to 2.5 million households, most of them African bush dwellers (Britain's Natural Resources Institute).

The fruit of the African baobab tree is mostly collected in the wild from the ancient trees, which can live for 500 years, with some as old as 5,000 years. The baobab enjoys the veneration and respect traditionally accorded to age in Africa and features in many stories and myths.

The fruit is seen as highly nutritious and a new taste option for the European market. This could be a major potential boost to Africa; the European Union is the world's biggest trader, accounting for 20 per cent of global imports and exports, and a major trading partner of most African countries. South Africa alone exports euro 20.9 billion (US \$26.4 billion) a year to Europe (2007).
– (October 2008)

Obesity Is a Food Security Issue

Scientists from the United Kingdom's London School of Hygiene and Tropical Medicine found obese people add the equivalent of an additional 1 billion people to the world's population because of the food they consume.

According to the United Nations (UN), there could be an additional 2.3 billion people in the world by 2050. But increasing body mass requires more energy and thus more food needs to be consumed. The world's adult population weighs 287 million tonnes, of which 15 million tonnes are due to people being overweight and 3.5 million tonnes are due to obesity, according to the scientists.

The average global weight per person was 62 kilograms in 2005. In the United States, it was 81 kilograms.

"Although the concept of biomass is rarely applied to the human species, the ecological implications of increasing body mass are significant and ought to be taken into account when evaluating future trends and planning for future resource challenges.

"Tackling population fatness may be critical to world food security and ecological sustainability," the scientists wrote.



World's adult population weighs 287 million tonnes, 3.5 million tonnes due to obesity (UN).



Quick Facts

- Least developed countries saw food imports rise from US \$9 billion in 2002 to US \$23 billion by 2008 (UNCTAD).
- In Malawi, to import food-aid maize costs US \$400 a tonne, US \$200 a tonne to import commercially, and US \$50 a tonne to source domestically with fertilizers (Raj Patel).
- UN Secretary-General Ban Ki-moon has called for food production to increase by 50 per cent by 2030 to meet rising demand.
- There are 862 million people in the world who are malnourished (FAO).
- More people now have less money to buy food. The number of individuals living in extreme poverty increased by 3 million per year during the boom years of 2002 and 2007, reaching 421 million people in 2007 (UN).
- More than 1,400 insect species are eaten in 90 countries in the global South. Entrepreneurs in the global South are making insects both palatable and marketable – and in turn profitable.



Afghanistan's Juicy Solution to Drug Trade

Afghanistan is the world's largest source of the illegal drugs opium and heroin (International Narcotics Control Board), both of which are derived from the bright-red flower, the poppy.

All of this gives Afghanistan's farmers a bad image. But that could change with the launch of a new brand for Afghanistan: "Anar, Afghan Pomegranate." It is hoped this sweet fruit will lure farmers away from the illegal trade and boost the country's image at the same time. The red fruit that contains hundreds of seeds is a local delicacy and has a regional reputation for excellence. It is hoped the pomegranate fruit trees will draw farmers away from the market for the red poppy flower.
– (February 2009)

Q & A

Most people haven't heard of Olam International, but they know the brands they work for and they more than likely eat their produce. The story of Olam – a global food supply company in agri-products that got its start in Nigeria – shows how a Southern brand can grow and go global, and overcome the difficulties of cross-border trade.

SI What has been behind Olam's success to date?

We are one of the few businesses investing in rural environments and tackling the problem of urbanization.

SI How have you made farming pay?

Many countries are afraid to lend to farmers. We gather the farmers together in groups of 500 and Olam manages the loan while a local bank receives the money. Defaults have been low and farmers are building up a credit rating. In this way, farming becomes a business, not just a subsistence existence.

We want the farmers to be profitable, the transporters to be profitable. We believe a supply chain does not work if one player takes too much.

Chris Brett
Senior Vice President
and Head of Corporate
Social Responsibility and
Sustainability
Olam
olamonline.com

A Local Drink Beats Global Competition

For many decades, strong American and multinational food brands have penetrated markets in the South.

But one company in Indonesia has been pioneering a healthy local drinks empire while also fending off aggressive foreign rivals. The **Botol Sosro**, a tea drink in Indonesia bottled by family-owned business **Sosro**, was not only the first bottled tea brand in the country but also in the world, it claims.
– (March 2010)

sosro.com



A woman shows off her Wonderbag in her home.

Cooking Bag Helps Poor Households

For millions of poor people around the world, life is lived on the economic margins and household and personal budgets are tight. There were 1.29 billion people in the world living on less than US \$1.25 a day as of 2008 (World Bank), and 1.18 billion living on US \$1.25 to US \$2 per day. There was only a modest drop in the number of people living below US \$2 per day - the average poverty line for developing countries - between 1981 and 2008, from 2.59 to 2.47 billion.

One clever invention from South Africa is trying to tackle household cooking costs and shave the cost of fuel required to prepare the family meal. The **Wonderbag** is a brightly coloured, puffy cooking bag that slowly cooks a meal in a pot - be it a stew, curry, rice, soups - to save energy.

"The cost and savings per household are significant," says Wonderbag's inventor, **Sarah Collins**.

It has many other advantages, too: it is a time-saver, allowing people to spend the time doing something other than just tending the cooking pot. It can also reduce cooking accidents because less time is spent around the stove or fire. It is an efficient cooking method that uses less water to cook meals. And it even avoids the risk of burning - and wasting - food.

"20 per cent of all staple food in Africa is burned due to pots being placed on open fires and unregulated stove tops. With the Wonderbag, no burning happens," confirms Collins.

To date, the Wonderbag has created 1,000 jobs and is looking to increase this to 7,000 jobs in the next five years. - (April 2012)

nb-wonderbag.com

•**Haybox:** Haybox is another variation on the concept of heat retention for efficient cooking.
Website: haybox.co.uk



A Wonderbag is an insulated bag in which people can cook anything from meaty stews to vegetable curries.



Wonderbag inventor Sarah Collins

Insects Can Help in Food Crisis

So-called agflation (agricultural inflation) saw spiralling food prices throughout 2008, which in turn led to food shortages, hunger and malnutrition around the world. For example, rice in Thailand jumped from US \$400 per 100 kilograms to US \$780 by the end of 2008. World grain stocks were at their lowest level in four decades that year.

But where can new sources of food be found? And how can we use the world's resources more efficiently to feed the growing population? One answer, surprisingly, is insects.

In February 2008, the Food and Agriculture Organization of the United Nations held a conference in Chiang Mai, Thailand, to promote the value of insects as food and discuss how to harvest more of them. The working group of three dozen scientists from 15 countries probed the role of edible forest insects in food security. They explored insect protein as a contributor to better nutrition; the economics of collecting edible forest insects; methods of harvesting, processing and marketing them; and ways of promoting insect eating with snacks, dishes, condiments – even recipes.

The range of insects that can be tapped for food is huge: beetles, ants, bees, crickets, silk worms, moths, termites, larvae, spiders, tarantulas and scorpions. More than 1,400 insect species are eaten in 90 countries in the South. Known as entomophagy, insect-eating is a growing industry.

Entrepreneurs in the South are making insects both palatable and marketable – and in turn profitable. These innovations are creating an income source for farmers and the poor and supplying another weapon to the battle for global food security.

Insects have one big advantage as a food source: they are efficient converters of food into protein. Based

on the weight of the food required to feed them, crickets are twice as efficient as pigs and broiler chicks, four times more efficient than sheep and six times more efficient than cows. They breed at a far faster rate, and they contain essential amino acids. They are seen as an ecologically friendly alternative to traditional animal rearing.

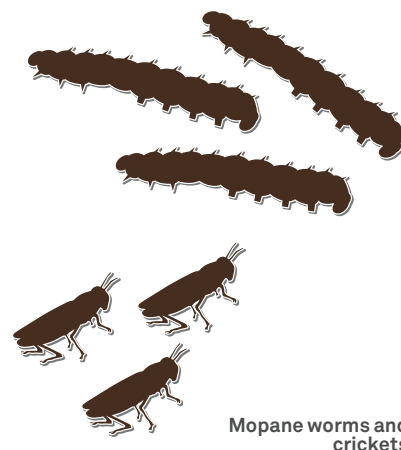
There are downsides to insects, however. In areas where there is heavy pesticide spraying on crops, insects can retain the pesticides in their bodies. Another key issue is sustainability: insect harvesting in some places has driven species to extinction. Then there is revulsion for some: in Western diets, there is an aversion to entomophagy, although most Westerners are happy to eat honey.

Revulsion at eating insects is misguided. Most grains and preserved food products contain large quantities of insects or insect fragments mixed in. For example, rice usually contains rice weevil larvae – and they can be an important source of vitamins.

In Africa, 250 edible insects are eaten, from termites to grasshoppers, and have helped people through many food emergencies on the continent.

In South Africa – where edible insects are a multimillion dollar industry – Botswana and Zimbabwe, the local taste for mopane worms is being harvested for profits and nutrition. The worms, which inhabit mopane trees, require only 3 kilograms of feed (mopane leaves) to produce 1 kilogram of worms. At a rural factory in Limpopo province, South Africa, the community of Giyani is working to launch a wide range of products made from mopane worms – sustainably harvesting this larvae of the mopane emperor moth, *Goniobrassia belina*.

The **Greater Giyani Natural Resource**



Mopane worms and crickets

Development Programme, in partnership with scientists at the **University of Pretoria**, is developing mopane worm products, including essential oils. The worms are usually par-boiled and then sun dried by locals. But at the **Dzumeri Mopane Manufacturing Centre**, the worms are processed and made ready for market. The local people are being trained in how to harvest the worms hygienically and how to sort and grade the worms. The products will include deep-fried snacks and seasoning spices. It is critical that the worms are harvested in a sustainable way because in some parts of southern Africa, they have been driven to extinction.

Johnathon Mndawe, the programme manager, is organizing women and youth into co-ops to make viable commercial enterprises.

One of the women, mother of four **Mthavini Khosa**, is excited: "For many years, we have been harvesting worms for food. We are excited because we will soon be doing it to make money."

In Thailand, insect harvesting is a well-established business. Thais eat more than 150 insects, including crickets, silk worms and dung beetles. Canned crickets are regularly sold in supermarkets. Bugs are easily bought in the markets of Bangkok. – (April 2008)

• **Edible Unique:** An online supermarket of gourmet insect food products.
Website: www.edibleunique.com



Cool Food for the Poor

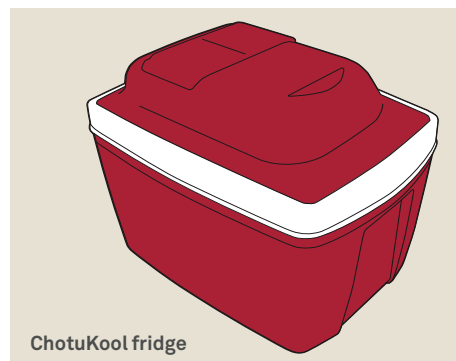
A plethora of high-tech, innovative products is now being developed and marketed for the world's poor.

An Indian refrigerator – the ChotuKool fridge – is designed to stay cool for hours without electricity and to use half the power of conventional refrigerators. Priced at US \$69, it is targeted at India's poor – a population of over 456 million, almost half the total Indian population (World Bank).

Manufactured by Godrej and Boyce and weighing just 7.8 kilograms, it is designed around the stated needs of the poor, who wanted a fridge capable of cooling 5 to 6 bottles of water and 3 to 4 kilograms of vegetables. Portability was crucial as well, since it needed to be able to be moved when large family gatherings take place in small rooms.

The fridge looks more like a drinks cooler than the typical large refrigerator.

Keeping food cool also comes with health advantages: it slows bacterial growth, which happens at temperatures between 4.4 degrees Celsius and 60 degrees Celsius. This is called “the danger zone”, when some bacteria double in just 20 minutes. But when a refrigerator is set below 4 degrees Celsius, most foods will be protected from bacterial growth (USDA).



ChotuKool fridge

Through refrigeration, the poor not only can avoid food poisoning but also benefit from better-quality foods, more dietary variety, and take better advantage of buying and storing food when prices are lower. – (January 2010)

chotukool.in

•**Zero Mass Foundation:** No-frills banking specially aimed at India's rural village poor. **Website:** www.zero-mass.org
•**iNext Billion:** Development Through Enterprise catalyses sustainable economic growth by identifying market opportunities and business models that meet the needs of underserved communities in emerging economies. **Website:** www.wri.org/project/nextbillion

Brazil's Agricultural Success Teaches South How to Grow Food

Two pioneering approaches to growing food in Brazil offer valuable lessons to countries looking to increase their food production.

BrasilAgro's approach is to buy derelict or neglected farms and give them a high-tech makeover. The “makeover” includes radio transmitters tracking the weather, SAP software, a well-organized work force under a gaucho, new roads criss-crossing the fields, and a transport network of trucks to quickly get the food to ports for export.

In 30 years, Brazil transformed itself from a food importer to one of the world's major food exporters. It is now considered alongside the “Big Five” top grain exporters of Australia, Argentina, Canada, the European Union and the United States. Significantly, it is the first tropical country to do this.

The value of Brazil's crops rose from US \$23 billion in 1996 to US \$62 billion in 2006. It is the world's largest exporter of poultry, sugar cane and ethanol, and there has been a tenfold increase in beef exports in a decade.

Brazil made these impressive achievements with few government subsidies.

And despite frequent alarming reports, much of the farming expansion has not happened at the expense of the Amazon forests.

The agricultural success is due to **Embrapa** – short for **Empresa Brasileira de Pesquisa Agropecuária**, or the Brazilian Agricultural Research Corporation. A public company set up in 1973, it has turned itself into the world's leading tropical research institution. It breeds new seeds and cattle and has developed innovations from ultra-thin edible wrapping paper for foodstuffs that turns colour when the food goes off to a nano-tech lab creating biodegradable ultra-strong fabrics and wound dressings. – (September 2010)

brasil-agro.com – www.embrapa.br/english

•**Africa Project Access:** A South African company specializing in projects in sub-Saharan Africa and getting them finance. **Website:** www.africaprojectaccess.co.za
•**Silk Invest:** A specialist investment fund targeting the fast-growing markets of Africa and the Middle East. **Website:** www.silkinvest.com
•**Africa-Brazil Agricultural Innovation Marketplace:** The Africa-Brazil Agricultural Innovation Marketplace is an international initiative supported by different donors aiming to link Brazilian and African experts and institutions to develop cooperative projects. **Website:** www.africa-brazil.org





The majority of agricultural work is done manually in Africa and 80 per cent of land preparation is done by hand (FAO).



Milk Cooperatives Help Hungry Haiti

A cooperative of dairy farmers is doing its bit to revive domestic production of milk products and reduce the crippling costs of importing milk for Haiti.

Importing 85,000 tonnes of milk from Europe and the United States costs Haiti US \$40 million a year.

The poorest country in Latin America and the Caribbean and one of the poorest in the world, Haiti imports some 52 per cent of its food, including over 80 per cent of its rice. Local food production covers only 43 per cent of the country's demand and food aid supplies only 5 per cent of its needs. Of the estimated 9.8 million Haitians, 5.1 million live on less than US\$1 a day and 7.6 million on less than US \$2 a day. At current prices, one dollar buys only half a meal per day (United Nations Country Team in Haiti).

Haiti's problems are made worse by a global food crisis. So-called agflation (agricultural inflation) has seen spiralling food prices around the world, which in turn are causing food shortages, hunger and malnutrition.

In Haiti, most agriculture is done on a small scale by about 700,000 family farmers. Few belong to any production association or mechanism to market and distribute their products, and local produce has been pushed out of the market by imports.

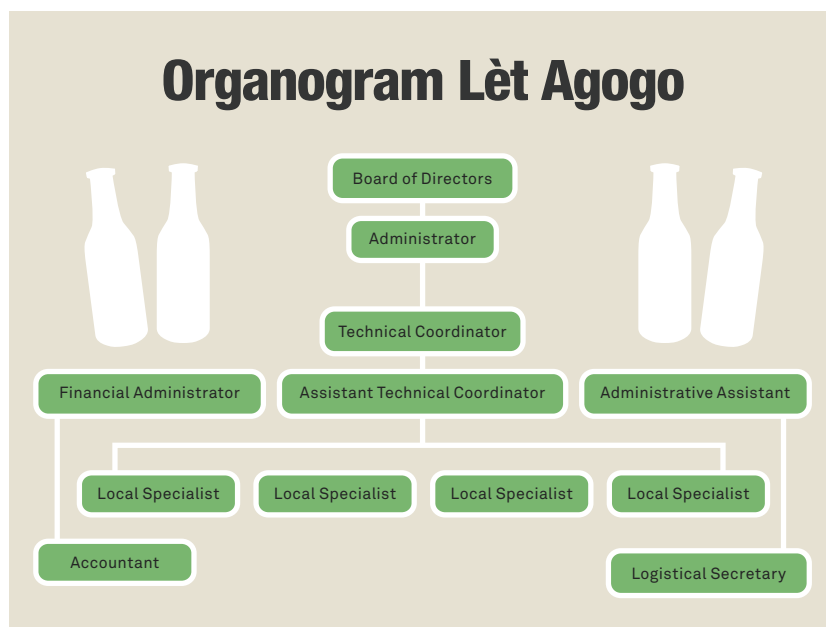
Subsidized U.S. rice began flooding in 30 years ago, becoming so cheap that Haitians began eating it instead of the corn, sweet potatoes, cassava and domestic rice they grew. The U.S. imports drove rice farmers out of business and incited a rural exodus that swelled the slums of the capital, Port-au-Prince. This dependence on imports has caused dangerous food insecurity. Today, the U.S. rice that is the staple of many Haitians' diet has doubled in price in little more than a year.

Dairy production in Haiti was in decline for 20 years until, in 2002, the country ceased to produce any milk at all. The urgent need for milk in Haiti is shown in the average consumption: per child, only 110 ml is consumed per day. In Uruguay, for example, it is 520 ml a day (190 litres per person per year).

Lèt Agogo (Creole for Unlimited Milk) is a cooperative using small-scale farmers to bring milk to the hungry. Founded by the **NGO Veterimed** six years ago, it now has a network of 13 dairies across the island.

"Haiti is a country where we consume a lot of milk," said Chancy, a veterinarian and one of the visionaries behind Lèt Agogo. "After rice, milk is the second-largest import."

At present, Haiti has 500,000 dairy cows out of more than a million head of cattle. The problem came down to marketing and distributing the dairy products. With no structure in place, few farmers bothered milking their animals. But by the end of 2007, 600 farmers had joined the network and 400 producers in making dairy products and grass pasture management.



Haitian milk cooperative Let Agogo's 'organogram', or organization structure plan.

Lèt Agogo is hoping to get Haiti's milk production up to 145,000 tonnes a year from the current 45,000 tonnes. So far, the product's single biggest client is the Haitian government. It buys bottles of sterilized milk below cost and distributes them to 130,000 school children in 44 government-funded schools. **Dr. Michel Chancy** told the Miami Herald that the government would like to expand the distribution to 800 schools.

In 2007, they turned 540,000 litres into yoghurt and sterilized milk that can stay on the shelf for six to nine months without refrigeration. Made from sterilized milk, the yogurt comes in 280 ml bottles, has a shelf life of nine months and sells in stores throughout the country. – (August 2008)

• A series of videos showing how Lèt Agogo works.
Website: veterimed.org.ht

Growing a Southern Brand to Global Success: *The Olam Story*

Most people haven't heard of **Olam International**, but they know the brands the company works for and they more than likely eat their products. The story of Olam – a global food supply company in “agri-products” that got its start in Nigeria – shows how a Southern brand can grow and go global, and overcome the difficulties of cross-border trade.

Olam supplies well-known global food brands including Cadbury (chocolate), Nestlé, Lavazza (coffee), Mars (chocolate), Tchibo and Planters (peanuts).

Olam not only survived its startup in Nigeria; it has also thrived, trading around Africa and across the globe, becoming a major supplier to the world's top food brands.

Olam is a significant producer of cashews, peanuts, spices, beans, coffee, cocoa, sheanuts, packaged foods, rice, wheat, barley, sugar, cotton, wood, and rubber. It is already the world's largest supplier of cashew nuts and sesame nuts and in the top three for peanuts. Olam's cashew business in Africa provides work for 17,000 people, 95 per cent of whom are women.

Olam also uses its success to play a critical role in securing the world's food supply and has specialized in meeting the food needs of the world's rapidly growing population, especially in China and India.

Chris Brett, Olam's senior vice president and head of corporate social responsibility and sustainability, said the company tries to blend business success with wider social goals.

“We are one of the few businesses investing in rural environments and tackling the problem of urbanization,” said Brett in Olam's London office. The company's global headquarters is in Singapore.

Olam also has been recognized for its contribution to global food security. By providing farmers with credit to help build their communities, it has also been able to revive declining rural economies and help stem the outflow of farmers to the big cities and urban slums.

“Many countries are afraid to lend to farmers,” Brett said. “We gather the farmers together in groups of 500 and Olam manages the loan while a local bank receives the money. Default rates have been low and farmers are building up a credit rating. In this way, farming becomes a business, not just a subsistence existence.”

Olam International, started in 1989 in Nigeria by its India-born CEO **Sonny George Verghese** has many lessons for any Southern entrepreneurs who have their sights set high.

After developing its skills in exporting cashew nuts from Nigeria, Olam moved into cotton, cocoa and sheanuts. From 1993 to 1995, the company explored ways of taking their skills into other countries and different products.

Olam now operates in 26 African countries.
– (October 2009)

olamonline.com



•**Brandchannel:** Packed with resources and contacts to help businesses intelligently build their brand.

Website: www.brandchannel.com

•**Branding Strategy Insider:** This blog provides advice and case studies on how to build trust for your brand.

Website: www.brandingstrategyinsider.com

•**Starting a SME (small and medium enterprises):** This website is packed with advice and tips for starting a small business and how to grow it with limited resources.

Website: www.smallbusiness.co.uk

•**World Business Fair:** The World Business Fair is an international trade platform for global entrepreneurs and professionals.

Website: worldbusinessfair.com



Women gather rice on Olam's Rice Model Farm.



Brazil Preserves Family Farms, Keeping Food Local and Healthy

Family farming has been seen as doomed for a long time. In the 19th century, figures such as political economist Karl Marx believed agriculture would be split into capitalist farms and proletarian labour. Most modern economists regard family farming as an archaic way to grow food, destined to give way to agribusiness. Most family farms refute this, saying family farmers have been able to operate with success in both developed and developing countries.

And small farms have endured. The livelihoods of more than 2 billion people depend on the 450 million smallholder farms across the world. With their families, smallholder farmers account for a third of the world's population.

Family farms are critical to weathering economic crises and ensuring a steady and secure food supply. The International Fund for Agricultural Development (IFAD) called for small family farms to be put at the heart of the global response to high food prices and to improve food security. In Brazil, this call is being answered by a bold initiative to create what is called a “social technology”, combining a house building programme with diverse family farms.

Brazil is currently buying up unused land and distributing it to people making land claims, including members of Brazil's Landless Workers Movement. When they receive land, family farmers often find there is no house on the land or just a very basic dwelling.

This is where the Brazilian farmers' cooperative **Cooperhaf: Cooperativa de Habitação dos Agricultores Familiares** steps in. It has put together what it calls a “social technology” combining housing and farm diversification to support family farmers.

“We see the house as the core issue,” said **Adriana Paola Paredes Penafiel**, a projects adviser with Cooperhaf. “The farmers can improve their productivity but the starting point is the house.

“Family farming is very important for the country – 70 per cent of food for Brazilians comes from family farming,” said Penafiel. “The government wants to keep people in rural areas.”

Started in 2001 by a federation of farmers' unions, Cooperhaf works in 14 Brazilian states with family farmers.

“Family farmers had to organize themselves to deal with housing,” said Penafiel. “The cooperative was formed to mediate between farmers and the government. The farmers have a right in the law to a house.

“We promote diversification to make farmers less vulnerable: if they lose a crop in macro farming, they lose everything. We encourage diversification and self-consumption to guarantee the family has food every day.

We help to set up a garden.” The concept is simple: a good-quality home acts as an anchor for the family farm, making farmers more productive. The farmers receive up to 6,000 reais (US \$2,290) for a house and can choose designs from a portfolio of options from Cooperhaf.



Cooperhaf offers family farms the choice of a wide range of home designs based on need and resources. The Government of Brazil makes affordable loans available to help with purchasing the new home. With a secure and quality home, the family farm is better placed to put down roots and grow.

As in other countries, Cooperhaf and other coops encourage markets and certification programmes to promote family-farmed food and raise awareness. Penafiel says promoting the fact that the food is family farmed is critical: to the consumer it is healthier and fresher and contains fewer chemicals than imported produce.

“We sell a livelihood, not a product. If you get to know the product, you are more conscious of what you eat.”

“Most agribusiness is for export,” said Penafiel. “If we don’t have food in the country, food for poor communities would not be available. This enables farmers to be more autonomous, not having to buy fertilizers and equipment and take on too much debt. That approach is not sustainable, as we saw with the so-called Green Revolution.”

– (December 2008)

cooperhaf.org.br

- US-based **Local Harvest** uses a sophisticated website and map to help customers find local farmers and buy their products. It also is packed with resources and offers a good model for Southern farmers to work together.
Website: www.localharvest.org
- **Ela Family Farms** is an organic fruit farm (peaches, apples, pears and cherries) that uses a website and sophisticated product marketing to sell the farm’s produce.
Website: www.elafamilyfarms.com
- The global movement for slow food, which encourages organic production and appreciation of traditional foods and cooking.
Website: www.SlowFood.com



Brewing Prosperity Creates Good Jobs

In the Democratic Republic of the Congo – home to the world’s largest United Nations peace-keeping mission after decades of bloody civil war – a brewery has not only survived, but it has also thrived to become a popular brand throughout central Africa. Through its success, the **Brasimba** brewery has brought prosperity and high-quality jobs to the Democratic Republic of the Congo’s second largest city, Lubumbashi, and proven that a modern business can do well there despite the obstacles.

The Brasimba brewery has an ultra-modern factory complete with high-tech laboratories to constantly test the quality of the beer. It employs 700 people – most of whom are Congolese – and produces 250,000 bottles of Simba beer every day, according to *Monocle* magazine. The company’s beer brands are Simba Bière du Lion and Tembo Bière and its slogan is a proud Notre Bière (Our Beer).

Lubumbashi is a city described by the BBC as without “child beggars, without potholes and where there are no festering mounds of rubbish.”

Brasimba has been operating in Lubumbashi for eight decades, through the twists and turns of the country’s history. The city has prospered from its copper mines and wisely used that wealth to improve the city’s general prosperity.

The brewery has successfully become a regional favourite, producing beer that is drunk not only in the surrounding Katanga province but also in Zimbabwe and Zambia. It’s an impressive accomplishment for a company operating in such a turbulent environment. Distribution of the beer by truck is not easy, with the trip taking between six days and two weeks depending on the weather and the condition of the roads.

And the beer is not cheap, at around US \$1.48 for a big bottle – a sure sign there is money to be made.

– (December 2009)



Protecting Threatened Fruits and Nuts in Central Asia

A quarter to a half of the world's total plant species could die out in the coming years, according to an estimate by *Scientific American* (2002). The causes are many but include increasing weather turbulence because of climate change and the growth of diseases and viruses that can spread rapidly and destroy crops.

This scale of plant loss risks leaving the world's food security dependent on fewer – and more vulnerable – domesticated species. The hunt is on for hardy plant species that can survive these ups and downs while protecting the world's food security for this and the next generation.

In the Central Asian countries of Kyrgyzstan and Tajikistan, conservation of trees and their fruits and nuts is being placed at the centre of the economic lives of people who had been unwittingly destroying the trees' habitat. Two projects, one to preserve walnut trees in Tajikistan and the other to preserve apple trees in Kyrgyzstan, are beginning to bear fruit.

The **Red List of Trees of Central Asia**, published in April 2009 by the **Global Trees Campaign**, identified the 44 species most at risk in Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. Growing in rugged, mountainous terrain, the plants have high genetic diversity and are thought to be critical in the development of disease-resistant and climate-tolerant fruit varieties.

The diverse environments of Central Asia are host to over 300 wild fruit and nut species that are ancestors to the fruits and nuts we eat today, including wild apple, plum, pear, pistachio, cherry, apricot and walnut.

Many face extinction as local people – driven by the need for firewood or to earn an income – cut down this precious resource. The Red List estimates that over 90 per cent of the trees in the fruit and nut forests across Central Asia have been destroyed in the past 50 years. The importance of these fruits and nuts can not be over-emphasized: all the common varieties of apricot come from one living ancestor, the species *Armeniaca vulgaris*, now very rare in Central Asia. Central Asia's *Malus sieversii* gave birth to today's domestic apples. It spread its way around the world along the ancient Silk Road. The name of Kazakhstan's former capital city is Almaty, which literally means "Grandfather of Apples".

Scientists have found genetic diversity and disease resistance greater in wild plant species that have not been domesticated, such as *Malus sieversii*. *Malus sieversii* is highly resistant to fire blight, a nasty disease that turns the fruits black (USDA).

To stop this free-for-all in which resources are plundered to extinction and trees wiped out to be used for firewood, deals are being struck to guarantee local communities' rights to exploit the



Work is underway in Kyrgyzstan to preserve the Red Listed Niedzwetzky apple. Projects are working with the village of Kara Alma in southern Kyrgyzstan to develop eco-friendly small businesses.

trees as a resource while also obligating them to preserve them.

In Tajikistan, the walnut trade is a critical source of income for some villages, with most of the crop exported to Turkey. The country shares with Kyrgyzstan the world's largest natural-growth walnut forest. But the use of short-term land leases discouraged long-term management, while local people were lacking any other sources of income and overexploited the trees.

Jilly McNaughton of British NGO **Fauna and Flora International** said the current situation "is not good, with use of the forest by local people both heavy and inadequately controlled." "Collection of firewood and grazing are perhaps the biggest concerns," she said. "There is very little natural regeneration of wild trees due to grazing and hay making in the forest. As the walnut is valued as an income-generating crop, other trees are cut for firewood and timber, meaning parts of the forest have become a park-like landscape with scattered large walnut trees."



Fauna and Flora International, which specializes in species preservation, is encouraging local people to work towards long-term leases and diversify their sources of income. The strategy includes encouraging other ways to make a living, including raising chickens, making clothes and bee-keeping.

As one villager said: “We have bought honey buckets and bees. Next year we will get a lot of honey – it will be a great income. We got a job.”

The Red List of Trees found the causes of species’ destruction are varied: overexploitation, human development, pests and diseases, overgrazing, desertification and fires. Since the break-up of the Soviet Union, funds have been short to help reverse these threats.

The most threatened apple species in the Red List is the Niedzwetzky apple (*Malus niedzwetzkyana*).

In Kyrgyzstan, work to preserve the Niedzwetzky apple is directly involving the community. Projects are working with the village of Kara Alma in southern Kyrgyzstan and government forest services to encourage eco-friendly small businesses to earn incomes and protect the forests.

They have catalogued all 111 trees that still survive and have set up a community-run nursery to grow more. The ambition is to expand this approach across the region, both preserving these great resources and bringing hope and employment to the people. – (July 2009)

globaltrees.org/rl_centralasia.htm
www.fauna-flora.org

- The **Global Trees Campaign**, a partnership between Fauna & Flora International, Botanic Gardens Conservation International and many other organisations around the world, aims to save threatened tree species through provision of information, conservation action and support for sustainable use. **Website:** www.globaltrees.org
- **Environmental Public Awareness Handbook:** A thorough account with case studies of a successful two-year project in Mongolia to combine environmental protection with livelihoods. **Website:** tinyurl.com/yhjy7h



Walnuts are an important income source for some villages in Tajikistan. It shares with Kyrgyzstan the world's largest natural-growth walnut forest.



New Appetite for Nutritious Traditional Vegetables

Throughout the history of farming, around 7,000 species of plants have been domesticated. Yet everyday diets only draw on 30 per cent of these plants and this number has been falling as more people consume mass-market foods (FAO).

One consequence has been poor nutrition resulting from the reduction in consumption of high-vitamin foods, leading to stunted mental and physical development across the global South.

Once-rich culinary traditions have wilted and left many people not knowing what to do with formerly common vegetables and fruits, even when they can find them in markets.

Between 94,000 and 144,000 plant species – a quarter to a half of the world's total – could die out in the coming years, according to an estimate by *Scientific American* (2002). Among them are vital food crops, threatened by a world in which climate change is causing more weather turbulence and diseases and viruses can spread rapidly and destroy crops.

This scale of plant loss risks leaving the world's food security dependent on fewer – and more vulnerable – domesticated species.

Despite being rich in vitamins, minerals and trace elements, African leafy vegetables have been overlooked in preference for cabbage, tomatoes, carrots, and other imported produce. But with rising food prices at local markets, people are looking again at these neglected African vegetables. In East Africa, this includes indigenous plants such as amaranth, African eggplant, Ethiopian mustard, cowpea, jute mallow and spider plant.

Like tomatoes and potatoes, some of these vegetables are members of the nightshade family – but unlike those imports, they are indigenous to Africa.

According to **Patrick Maundu** of **Bioversity**

International, African night shades provide seven times more protein, iron, vitamin A, iodine, zinc and selenium than cabbage. The high levels of vitamins and micronutrients, he says, are especially important to people at risk of malnutrition and disease, particularly those with HIV/AIDS.

As the cost for basic food-stuffs has shot up during the global economic crisis, growing food has become an increasingly lucrative source of income. Estimates of the number of people turning to agriculture across Africa range from hundreds of thousands to millions.

In the bid to reduce the overdependence on imported foods, urban farming is becoming an effective survival tactic in Africa's fast-growing cities. Thousands of urban workers in Kenya's capital, Nairobi, are supplementing their wages by investing in farms growing food.

Eunice Wangari, a nurse in Kenya, supplements her US \$350/month salary with money earned from growing food. "For too long our country has been flooded with imported food and Westernized foods," Wangari told *The Guardian* newspaper. "This is our time to fight back – and grow our own."

In Kenya, this type of agriculture usually involves an urbanite taking a stake in farmland outside the city.



- 01 African Eggplant *Solanum Melongena*
- 02 African Eggplant with edible leaf
- 03 Ethiopian Mustard
- 04 Ethiopian Mustard fruit
- 05 African Nightshade 1
- 06 African Nightshade 2
- 07 Jute Mallow leaves
- 08 Jute Mallow young fruit
- 09 Amaranth different leaf shapes and colours
- 10 Amaranth different leaf shapes and colours 2
- 11 Amaranth *Inflorescences*
- 12 *Roselle Calyx*
- 13 African Eggplant *Solanum Aethiopicum*
- 14 Okra flower with purple petal base





Relatives then do the farming. Mobile phones play a key role in this approach. The urban dweller can keep in touch with the farm by phone and receive updates on progress. They use their knowledge of urban food tastes to then adjust the crops and increase profits.

An accountant, **James Memusi** in Nairobi, is growing mushrooms in a spare bedroom in his home and then selling them to hotels and supermarkets, according to *The Guardian*. **Miringo Kinyanjui** is selling unrefined maize and wheat. Loved for its nutritional qualities, the flour is also flavoured with amaranth, a common green vegetable in Kenya. It is a clever way to make the most of the fact that many urban dwellers have some access to land in the countryside.

Pride is also returning to the topic of food, as people rediscover traditional foods and vegetables and fruits.

In Liberia, president **Ellen Johnson-Sirleaf** has launched a **“Back to the Soil”** campaign to get urban dwellers to farm and help the country lose its dependence on foreign food imports.

Liberia is trying to reduce the importing of rice and tomatoes.

In Zambia, the embracing of traditional foods has been fuelled by recipes used by a chain of popular restaurants. This appetite has driven demand for dried pumpkins, “black jack” leaves and fresh okra.

The success of this revival of traditional foods has attracted big multinationals as well. Unilever Kenya ran a campaign in 2008 called “taste our culture,” promoting African herbs and spices.

– (November 2009)

bioversityinternational.org



Photo Credit: Felix Antonia

A marketplace shows the potential bounty available if the number of urban gardens can be increased.

Urban Farming to Tackle Global Food Crisis

U.N. Secretary-General Ban Ki-moon has called for food production to increase 50 per cent by 2030 just to meet rising demand – and right now there are 862 million people undernourished (FAO). One solution, urban farming, can make a huge difference, as the Caribbean island of Cuba has shown.

Today, Cuba imports about 50 per cent of its minimum fuel and food requirements – a cost that reached US \$1.6 billion in 2007 for food (Reuters).

The island has been buffeted by one food crisis after another in the past two decades, first by the collapse of its aid from the Soviet Union and then by a fuel crisis. But now, urban farming in Cuba provides most of the country's vegetables, thanks to urban gardens that have sprung up on abandoned land in the country's cities and towns. And the food is pesticide-free: 70 per cent of the vegetables and herbs on the island are organic.

These urban farms mean fresh food is just a short walk away from the people who eat it. And in a world of rising fuel prices, Cuba has reduced the use of fossil fuels in the production and transportation of food.

The urban farms have created 350,000 jobs that pay better than most government jobs. It has also improved Cubans' health: many

have moved from diets dominated by rice and beans and imported canned goods from Eastern Europe, to fresh vegetables and fruits.

While Cubans receive at least a basic state ration of rice, beans and cooking oil, the rations do not include fresh fruits and vegetables. After the withdrawal of Soviet subsidies, the average Cuban's daily calorie intake fell sharply.

Between 1989 and 1993, daily calorie intake dropped from 3,004 to 2,323 (UN). But with the growth of urban farms, this has moved up to 3,547 calories a day – even higher than the amount recommended for Americans by the US Government.

– (June 2008)

•**Square Foot Gardening:** A book with all the details on how to grow food in tight, urban spaces.

•**Urban Gardening Help:** A website dedicated to tips for urban gardeners, with resources on urban food production.

Website: urbangardeninghelp.com/small.htm

•**Small Urban Gardens:** A book covering case studies of urban gardens from around the world. **Website:** amazon.co.uk/Small-Urban-Gardens-Evergreen/dp/3822851418

•An interactive map showing how the world food crisis is affecting countries. **Website:** ft.com/cms/s/0/d8184634-07cc-11dd-a922-0000779fd2ac.html?from=text&nclink_check=1



Urban Farmers Gain from Wastewater

One fast-growing water solution is helping to bring farming to urban and semi-urban spaces, where the majority of the world's population now lives.

Urban farmers can take advantage of their close proximity to consumers, keeping costs down and profits up. They can also solve one of agriculture's enduring problems – where to find water for irrigation – by using existing wastewater. Wastewater is plentiful in urban environments, where factories usually pump out wastewater into streams, rivers and lakes.



The amount of urban farmed agriculture is still small, about 10 per cent of the world's agricultural production, but is a potential growth area if handled well.

In 53 cities surveyed by the **International Water Management Institute (IWMI)**, 1.1 million farmers were now using recycled or wastewater to irrigate their crops. The number worldwide could be 200 million.

In Accra, Ghana, more than 200,000 people depend on food grown with wastewater. In Pakistan, a full quarter of the grown vegetables use wastewater.

The use of wastewater comes with its ups and downs. While the World Health Organization (WHO) rightfully points out that wastewater can be a source of disease and pollution, cities also

face a dilemma: diverting fresh water to irrigate crops means less for people to drink. Out of the 53 cities surveyed by the International Water Management Institute, 85 per cent dumped their raw sewage and wastewater into streams and lakes. With this in mind, WHO has altered its stance on wastewater and now supports its use for irrigating farmland as long as all efforts are made to treat wastewater and people are warned to thoroughly wash food before eating it.



Pay Drechsel, who heads the IWMI's research division based in Accra, Ghana, studying safe and productive use of low-quality water, says sophisticated systems to use wastewater have developed in Viet Nam, China and India, "where this practice has been going on for centuries."

"People know how to avoid health risks, like thorough cooking of vegetables," he said. "In Viet Nam and China, waste from households (faecal waste, solid waste and wastewater from household use) have always been effectively recycled in 'closed systems' at a household level where the waste/nutrients are recycled into the food chain and so return for human consumption."

"The risk for the consumer is extremely low, a waste product is productively recycled, the farmer has a good harvest and the city gets rid of its waste," Drechsel said. "A multiple win-win situation." – (September 2008)



Safe Practices: Follow the Right Protocols

According to the International Water Management Institute in Accra, Ghana, farmers use various methods to reduce the risk of contamination, including drip irrigation where the water does not touch the crop.

The risks for both farmers and consumers can be managed with the right protocols. For farmers, they recommend wearing of rubber boots and careful hand washing to avoid skin diseases. Farmers usually make more money than those who do not use wastewater, and thus can afford the extra cost of precautionary measures, such as deworming tablets. They can quickly get out of poverty by using this water.

For consumers, the risk is from diarrhoea, typhus or cholera if raw food is eaten unwashed or poorly washed. The best solution is to turn to the WHO's guidelines and proven local practices and tested techniques developed by researchers.

"Here more awareness creation on invisible risks through pathogens is needed. Perception studies in West Africa showed that nearly all households wash vegetables but they target visible dirt. Thus, the methods used are not effective. Best would be, therefore, a combination of risk-reducing interventions from farm to fork, as none alone is 100 per cent efficient. This is also what the new WHO guidelines promote: a flexible approach, reducing in each country the health risks as far as it is possible and feasible."

• Vertical farming, where hothouses are piled one on top of the other, is an option being promoted as a solution to the food needs of urban dwellers. [Website: verticalfarm.com](http://Website:verticalfarm.com)



Farmers Weather Fertilizer Crisis by Going Organic

Around the world, large-scale agriculture relies on the use of chemical fertilizers. But increasing expense and a decreasing supply of fertilizer is driving up the cost of food and in turn contributing to the overall food crisis.

The fertilizer crisis is caused by several factors. Anhydrous ammonia, which is the source of nearly all nitrogen fertilizer, needs natural gas, and the price of gas has risen sharply. Other fertilizer ingredients such as phosphorous, potassium and potash are also increasingly expensive. Fertilizer needs to be transported long distances to get to farmers, so costs have risen with the soaring price of oil. And finally, the rise in demand for food has put the price of fertilizer up, as countries hoard supplies for themselves.

The 1960s “Green Revolution” in agriculture made developing-world farmers dependent on supplies of fertilizers, pesticides and artificial irrigation. Monoculture cash crops became the norm. Yields were doubled but at the expense of using three times as much water by accessing groundwater using electric pumps. This and fertilizer pollution have caused widespread damage to soil and water. In India, for example, 57 per cent of the land is degraded, according to Tata Energy Research.

In Cambodia, farmers are reaching back to past practices for answers to the fertilizer crisis. One is to go organic. Taking this approach has many health and environmental advantages – and, best of all for farmers, it keeps costs down.

Khim Siphay, a Cambodian farmer, has found he gets bigger crops of rice and vegetables while paying a lot less for fertilizers.

“Using pesticide or fertilizers kills important insects and causes the soil to become polluted,” he told *Reuters*. “I use compost and it helps keep the soil good from one year to another. All of my family members help make the compost.”

The push to organic methods for Cambodia’s 13 million people relying on agriculture for a living comes from a non-governmental organization, the **Cambodian Center for Study and Development in Agriculture (CEDAC)**. It has successfully moved to organic methods, starting from just a handful of 28 farmers in 2000 to the current 60,000 – and received an endorsement from the Cambodian Ministry of Agriculture.

CEDAC says farms using the organic methods have been able to increase rice yields per hectare, while the amount of seeds needed has fallen by 70 to 80 per cent. By using a “**System of Rice Intensification**”, the mostly small-scale farmers are able to get more out of the land with less labour. Add to that the fact that organic rice gets a premium price on world markets, and the



CEDAC says farms using the organic methods have been able to increase rice yields per hectare, while the amount of seeds needed has fallen by 70 to 80 per cent. By using a “System of Rice Intensification”, the mostly small-scale farmers are able to get more out of the land with less labour.

result for the farmers has been a rise in income from US \$58 to US \$172 per hectare.

“The important point of organic farming is that farmers don’t need to spend money on fertilizers and pesticide so they spend less money on farming,” said CEDAC official **Yang Saing Koma**.

“They can sell the produce for a higher price. Also they can avoid being affected by pesticides and they will be healthier. It is also good for the environment,” he said.

Rice and other produce can be used to feed chickens to produce organic poultry and eggs – another bonus for farmers looking to raise the value of their produce.

"I started doing organic farming outside my rice paddy, but then I noticed production was double, so in the next season, I decided to grow organically on all of my land," said farmer **Ros Meo**. "I spend less money now and I can grow more and I am not sick as I was before; my health is now good."

Going organic in Cambodia is something that is becoming more attractive to the country's growing middle class, and the Government hopes the country will gain a reputation as an organic producer.

Another approach to cheap fertilizer comes from Caracas, Bolivarian Republic of Venezuela. **Marjetica Potrc**, an artist and architect who works closely with impoverished communities, has come up with a "dry toilet" which collects human waste and converts it to fertilizer.

Developed after spending six months in the barrios of Caracas, the dry, ecologically safe toilet was built on the upper part of La Vega barrio, a district in the city without access to the municipal water grid. It is a place where about half the population receives water from municipal authorities no more than two days a week.
– (September 2008)



Farmers participate in a lesson in the "System of Rice Intensification" method.

Cedac.org.kh
Potrc.org

•**South African company Eat Your Garden:** It provides urban dwellers and food businesses with their own food gardens bursting with juicy and tasty foods while at the same time reducing carbon footprints, creating employment and providing training, helping to alleviate poverty.

Website: www.eatyourgarden.co.za

•**Soil Association:** The organization that establishes the standards necessary for food to be called "organically grown".

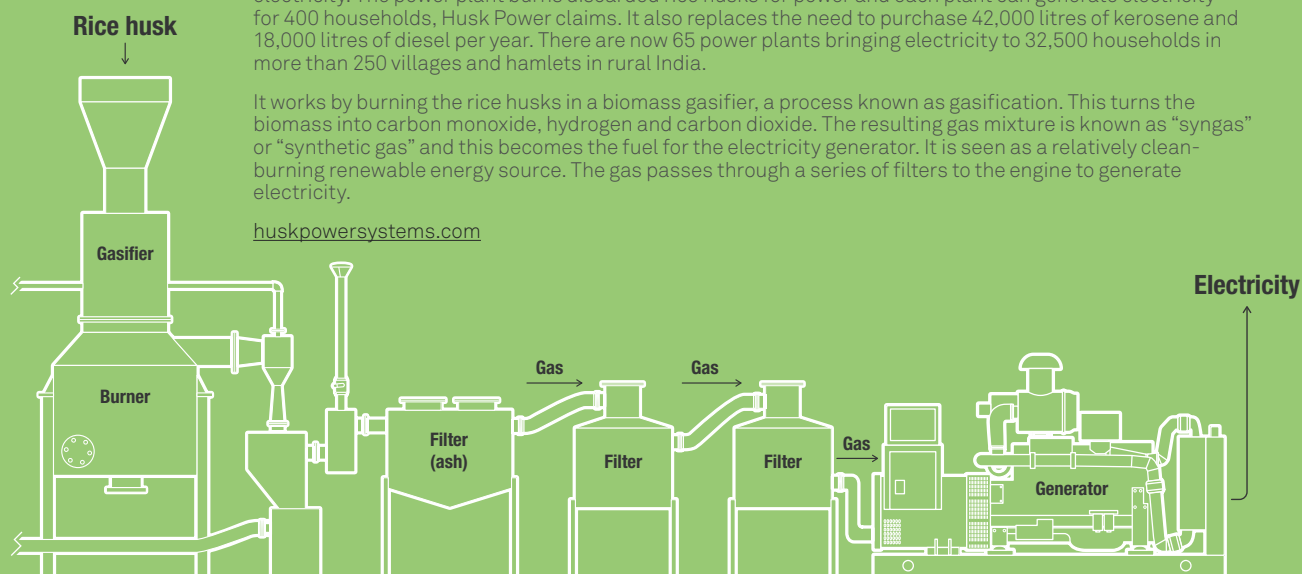
Website: www.soilassociation.org

Husk Power System

Husk Power Systems lit its first village in 2007 using a 100 per cent biomass-based power plant to generate electricity. The power plant burns discarded rice husks for power and each plant can generate electricity for 400 households, Husk Power claims. It also replaces the need to purchase 42,000 litres of kerosene and 18,000 litres of diesel per year. There are now 65 power plants bringing electricity to 32,500 households in more than 250 villages and hamlets in rural India.

It works by burning the rice husks in a biomass gasifier, a process known as gasification. This turns the biomass into carbon monoxide, hydrogen and carbon dioxide. The resulting gas mixture is known as "syngas" or "synthetic gas" and this becomes the fuel for the electricity generator. It is seen as a relatively clean-burning renewable energy source. The gas passes through a series of filters to the engine to generate electricity.

huskpowersystems.com



Note: Illustration not to scale and artist's impression only.



Brazilian Restaurant Serves Amazonian Treats

The vast Amazon rainforest has inspired a cuisine pioneer in Brazil. Combining the sensual pleasures of fine dining and the joy of tasting new flavours with a pursuit of sustainable and profitable local farming, a chef is inventing a new Brazilian cuisine and showing the way to create sustainable incomes.

The kitchens of chef **Alex Atala** are as much a laboratory of food experimentation as a place to cook meals. He applies French and Italian cooking styles to traditional Brazilian dishes and ingredients. Since opening his restaurant **D.O.M.** in 1999 in Sao Paulo, Atala has relentlessly pursued – through adventurous journeys around Brazil and into the Amazon rainforest – new flavours, foods and cuisines native to the country. He was surprised to discover the lack of knowledge about native Brazilian ingredients, both within the country and outside. He has turned himself into a champion for local communities, helping them turn local foods into sources of income.

Brazil, home to the largest portion of the Amazon rainforest, is hoping to become the world's biggest food producer – it is currently second after the United States – addressing a major global problem and providing income for Brazil's farmers.

The challenge is to increase food production – providing income for Brazil's farmers and helping address a major global problem – without destroying the Amazon's complex ecosystem.

Sao Paulo's D.O.M. Restaurante – the name is an acronym for the Latin phrase "God, the best and greatest" – has used the rainforest's rich harvest of foods to create an award-winning destination restaurant that prioritizes sustainable sources. It was ranked seventh in this year's S. Pellegrino World's 50 Best Restaurants list.

Atala says on his website he "is bringing a new sustainable Brazilian cuisine to the world's attention." His motto is "It is necessary to cook and eat as a citizen."

The restaurant celebrates small-scale producers when sourcing food products. One pioneering food producer Atala works with is **DRO Ervas e Flores** (herbs and flowers). Located in the city of Cequilha, it grows edible herbs and flowers for restaurants.

One notable success has been the Amazonian root *priprioca*. Once it was used only for cosmetics, but Atala has turned it into an essence for cooking. He has conducted original research into uses for the root, which is produced by small communities in the Amazon.

Other Brazilian foods he champions include black rice, an unusual variety sought after for its health benefits. It has 30 per cent more fibre and 20 per cent more protein than white rice, and less fat and fewer calories than brown rice. The black rice used at D.O.M. is produced in the Paraiba Valley in Sao Paulo state by **Chicao Ruzene**, who researches new varieties on the rice farm.

Jambu, a herb from the Amazon, gives an electrical sensation when it is chewed. Tucupi, a yellowish liquid from pressed wild manioc tubers, is used to season typical Amazonian dishes made with fish, fowl and duck.

Already well known in his native Brazil, Atala has become the country's first internationally known celebrity chef and standard-bearer for the "New Brazilian Gastronomy."

His long-term agenda is to boost local farmers and food production and to increase the availability of "wild" foods in the nation's supermarkets. If he gets his way, people around the world will be eating the Brazilian way. – (June 2011)



The red rice in a 500-gram jar.



An example of the range of branded rice products.



Brazilian Chef Alex Atala

arrozpreto.com.br

- **Brazilian Exporters and Importers:** Brazilian exporters and importers aims at facilitating foreigner entrepreneurs in locating Brazilian importers, exporters and partners offering services and investment in Brazil. **Website:** brazilianexportersandimporters.com/index.aspx
- **Por uma Gastronomia Brasileira** by Alex Atala - ISBN 8586518352. **Website:** www.facebook.com/pages/Alex-Atala/113372012006193
- **Eat Smart in Brazil: How to Decipher the Menu, Know the Market Foods and Embark on a Tasting Adventure** by Joan Peterson, Publisher: Ginko Press. **Website:** ginkgopress.com

Model Indian Villages to Keep Rural Relevant

In India, a pioneering initiative is reviving impoverished rural villages. Drawing on self-organizing methods used in India since 1200 BC, the **Model Village India** is based on India's democratic system of panchayats: a village assembly of people stemming back to pre-colonial times.

"Decentralizing is necessary if development is to reach the grassroots," said the concept's founder, **Rang-eswamy Elango**, a head of the village of Kuthampakkam, 20 kilometres (12 miles) from the bustling city of Chennai, and one of the 12,600 panchayats in the Indian state of Tamil Nadu.

While all villages have the ability to use the panchayat system to improve their lives, few are making the most of this system.

The concept has now expanded to 30 model villages. At its core, it is about being positive, eschewing griping

about problems and instead getting down to work to solve them.

"We demonstrate the basic infrastructure, sustainable housing, food security," said Elango. "If the government is not bothering, maybe through the local people's efforts, we can try to demonstrate a variety of development models."

As India's economy has boomed, its small towns and villages have withered. Home to the majority of the country's population, they are in crisis, with declining populations and high suicide rates. India's urban slums are where people are going: they are growing 250 per cent faster than the country's population. India is a country in danger of having neither a viable rural economy nor viable cities, but just vast tracts of slums.

In 1992, panchayats became legitimized and part of India's constitution.

“India was strong when this model was in place – we had strong villages,” said Elango. “Globalization’s trickle down is not working for India”

"The village-level local governments are constitutionally important bodies," said Elango, "but the way the system is implemented is not good. The system is unable to deliver the goods to the people."

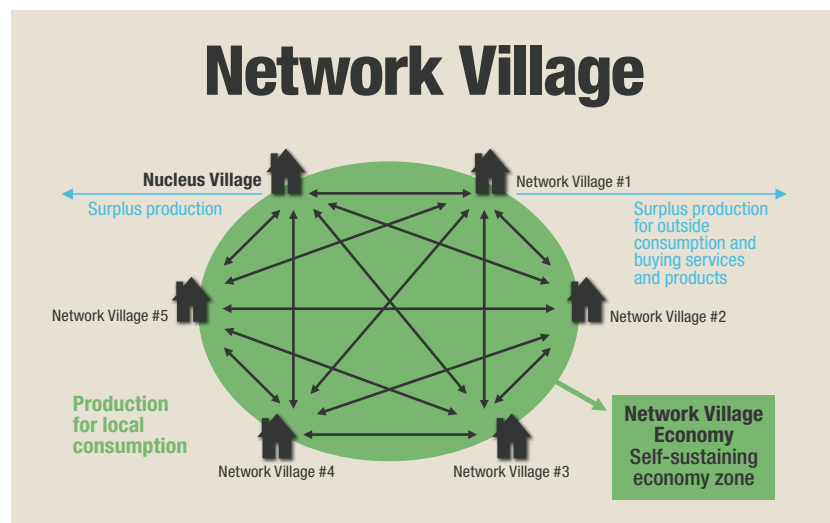
"Instead of having a big college, this is a practical people's model," Elango said. "It is not done by an academic but by a layman. The learning is spontaneous and emotional."

Elango is driven by making his village a model that works and, in turn, becoming a magnet for others wishing to improve their lives and their villages.

Like a spreading ink spot, the concept is to create a network of like-minded villages that act as self-reinforcing positive role models, spreading the prosperity and stability outwards. The "Network Growth Economy Model" is a direct challenge to the "special economic zones that benefit only capitalist owners," said Elango.

Ambitious, Elango is hoping to draw in 2,000 villages over the next 10 years until a tipping point is reached and the model explodes across India.

"India was strong when this model was in place; we had strong villages," said Elango. "Globalization's trickle down is not working for India."
– (November 2008)



The "Network Growth Economy Model" is used to tackle the unemployment and low incomes of rural villages. Rather than buying food and other products from outside the village, the villages band together to establish industries to provide those products to each other. This creates jobs and increases income by keeping the wealth within the network of villages rather than its benefiting far-away companies. The new businesses include Thoor dhal processing, dairies, soap making, bakeries, ground nut oil production, and leather making.

•**Unleashing India's Innovation: Toward Sustainable and Inclusive Growth**, a report by the World Bank.
Website: tinyurl.com/cqa5rt
•CIDEM and Ecosur specialize in building low-cost community housing using eco-materials. They have projects around the world and are based in Cuba.
Website: www.ecosur.org



Kenyan Products a Global Success

The East African country of Kenya has become synonymous with high-quality agricultural products and offers lessons for other countries across the South. The country has been able to combine innovation in new technologies (it is a pioneer in mobile phone applications such as m-banking), with quality control for its products. Initiatives such as the **Coffee Kenya Brand** logo and innovations such as the **SME Toolkit Kenya** make information on Kenyan products and resources via the Internet – crucial to drumming up international business – easily accessible.

There are several advantages to improving standards and productivity of agricultural products in Africa. The first is regional: greater productivity and efficiency will help in reducing malnutrition and food crises that have plagued the continent for decades. It also allows Africa to export food to other countries with fast-growing economies and boost the continent's wealth.

The dramatic changes taking place in African countries – especially rapid urbanization that has made the continent home to 25 of the world's fastest growing cities (International Institute for Environment and Development) – mean there is an urgent need to increase food production and stabilize rural economies to support farming.

Kenya is considered home to one of the continent's most successful agricultural production zones, with multiple agricultural products and brands developing a solid global reputation for quality.

The country benefits from the fertile Great Rift Valley, where the country's biggest crops – tea and coffee – are grown.

Agriculture is a key part of Kenya's economy: 75 per cent of the working population is employed in the sector. Farming sits behind tourism as the country's second biggest contributor – 20 per cent – to its gross domestic product (GDP).



A field of coffee plants growing in Kenya.

Kenya has had a great deal of success with fruits, vegetables and flowers (Kenyan flowers are a mainstay of many European supermarkets). Kenya has been able to achieve this by using well the 10 per cent of the country's land that is suitable for farming.

Around Mount Kenya, the cool and wet climate is perfect for farming tea, coffee, flowers, vegetables, corn and sisal. Other products that have been successfully grown include sugar cane, pineapple, cashew nuts, cotton, and livestock-related products – dairy goods, meat, hides and skins.

Kenya's main export markets are the United Kingdom, the Netherlands, Pakistan and the United States. This agricultural export success has had a knock-on effect of reinforcing a global reputation as one of Africa's best countries for business. – (June 2010)

kenya.smetoolkit.org/kenya/en
ketepa.com
kenyan-flowers.com



A barista makes coffee using Kenyan beans.



The Coffee Kenya brand logo.

- Small businesses looking to develop their brand can find plenty of free advice and resources here. **Website:** www.brandingstrategyinsider.com
- **Brandchannel:** The world's only online exchange about branding, packed with resources, debates and contacts to help businesses intelligently build their brand. **Website:** www.brandchannel.com
- **Just Food** is a web portal packed with the latest news on the global food industry and packed with events and special briefings to fill entrepreneurs in on the difficult issues and constantly shifting market demands. **Website:** www.just-food.com
- **World Vegetable Center:** The World Vegetable Center is the world's leading international non-profit research and development institute committed to alleviating poverty and malnutrition in developing countries through vegetable research and development. **Website:** www.avrdc.org

Southern Innovator KNOWLEDGE SUMMARY

Issue 3 of **Southern Innovator** joins a growing stable of off- and online resources capturing unique knowledge on Southern innovation.

5

E-newsletter

Published every month since 2006, the Development Challenges, South-South Solutions e-newsletter has chronicled the many changes in the global South from the rise of mobile phones to the move to cities and urban areas to the proliferation of innovative solutions.

Agribusiness

1



2

The **Southern Innovator website archive** presents by theme the back catalogue of stories from the Development Challenges, South-South Solutions e-newsletter. It also joins an extensive range of resources offered on the web portal of the UNDP Special Unit for South-South Cooperation (ssc.undp.org).

3

Food Security



4

Southern Innovator Issue 1

Southern Innovator's first issue profiled pioneers and innovators using mobile phones and information technology to tackle poverty and meet the Millennium Development Goals. It was launched in May of 2011 and the print version was distributed around the world by the UNDP Special Unit for South-South Cooperation.

**SouthernInnovator
#3 Available Now!**



MONEY, MONEY

- Where to Get It

AWARDS

Said Global Entrepreneur Challenge: SGEC is a global business-plan challenge hosted by the University of Oxford's Said Business School. It is more than just a competition; based on the quality of an initial one-page business plan, applicants will receive mentorship and guidance from the University of Oxford's business students and alumni to help to grow the ideas into practical, 10-page business plans. These business plans will be entered into a final competition where winners will be selected from six global regions. **Website:** www.sbs.ox.ac.uk/centers/entrepreneurship/programmes/Pages/YouthBusinessDevelopment.aspx

InnoCentive: InnoCentive is a challenge to the world's inventors to find solutions to real scientific and technological problems affecting the poor and vulnerable. It is an open marketplace where anybody with a problem can post it, and rewards for effective solutions stretch up to US \$100,000. It uses rigorous intellectual property protection so that ideas are not used without credit being given to the inventor. **Website:** innocentive.com

Grand Challenges Canada: A grand challenge is a specific critical barrier that, if removed, would help to solve an important health problem in the developing world with a high likelihood of global impact through widespread implementation. Grand Challenges Canada awards funding to innovative solutions to five challenges. **Website:** grandchallenges.ca

The Pioneers of Prosperity Grant and Award: This competition is a partnership between the OTF Group and the John F. Templeton Foundation of the United States. It promotes companies in East Africa by identifying local role models that act as examples of sustainable businesses in their country/region. It is open to businesses from Burundi, Kenya, Rwanda, the United Republic of Tanzania and Uganda. Five pioneers will receive US \$50,000 to re-invest in their businesses. It is open to for-profit businesses that provide high wages to their workers and that operate in sustainable ways.

Website: pioneersofprosperity.org/index.php

BUSINESS SUPPORT

West Africa Trade Hub: The Hub works with people to improve transport, access to finance, the business environment and ICT to make West African businesses more competitive. **Website:** watradehub.com

ExportHelp - Promoting and supporting access to the European market: The European Commission runs a database for the explicit support of market players in developing countries who want to bring their products to the European Union market. The database gives an overview on the EU's preferential trade regimes established for developing countries and lists all tariffs, taxes and other requirements for goods imported into the EU. **Website:** exporthelp.europa.eu

African Diaspora Skills Database: This database was compiled to provide an overview of qualified African diaspora professionals with varied areas of expertise and experience. The African diaspora contributes substantially to the social, economic and political development of Africa, and this database is set up to further mobilize this considerable potential. **Website:** diaspora-center.org

Development Executive Group Devex Networking: Over 90,000 global experts can network and connect and learn about more than 47,000 registered projects.

Website: devex.org

African Economic Outlook: A unique online tool that puts rigorous economic data, information and research on Africa at your fingertips. A few clicks give access to comprehensive analyses of African economies, placed in their social and political contexts. This is the only place where African countries are examined through a common analytical framework, enabling users to compare economic prospects at the regional, subregional and country levels.

Website: africaneconomicoutlook.org/en

GRANTS

Google.org: While SMEs in rich countries represent half of GDP, they are largely absent from the formal economies of developing countries. Today, there are trillions of investment dollars chasing returns – and SMEs are a potentially high-impact, high-return investment. However, only a trickle of this capital currently reaches SMEs in developing countries. Google.org's goal is to increase this flow. It wants to show that SMEs can be profitable investments and do this by focusing on lowering transaction costs, deepening capital markets to increase liquidity and catalysing capital for investment.

Website: google.org

Echoing Green: Social Entrepreneurs Fund: To accelerate social change, Echoing Green invests in and supports outstanding emerging social entrepreneurs to launch new organizations that deliver bold, high-impact solutions. Through a two-year fellowship programme, it helps its network of visionaries develop new solutions to society's most difficult problems. To date, Echoing Green has invested nearly US \$30 million in seed funding to almost 500 social entrepreneurs and their innovative organizations.

Website: echoinggreen.org

Bill & Melinda Gates Foundation: Guided by the belief that every life has equal value, the Bill & Melinda Gates Foundation works to help all people lead healthy, productive lives. In developing countries, it focuses on improving people's health and giving them the chance to lift themselves out of hunger and extreme poverty. The Foundation disburses grants to people in more than 100 countries.

Website: gatesfoundation.org

Skoll Foundation: Skoll is one of the leading foundations in the field of social entrepreneurship. Over the past 10 years, it has awarded more than US \$250 million, including investments in 85 social entrepreneurs and 70 organizations on five continents around the world who are creating a brighter future for underserved communities. In addition to grant-making, it funds a US \$20 million plus portfolio of programme-related and mission-aligned investments.

Website: skollfoundation.org

Rockefeller Foundation: The Rockefeller Foundation supports work that expands opportunity and strengthens resilience to social, economic, health and environmental challenges to promote the well-being of humanity.

Website: rockefellerfoundation.org

Landesa: Landesa helps millions of families receive assistance in gaining legal control over their land. Landesa works mainly in China and India and sub-Saharan Africa. Land rights are a great spur to wealth creation and give families a stake in growing local economies.

Website: landesa.org

INVESTMENT FUNDS

African Agricultural Land Fund: The fund has raised almost €2 billion from an American pension fund to invest in African agriculture. The African Agricultural Land Fund, created by the United Kingdom-based hedge fund Emergent Asset Management, wants to raise a total of €3 billion and is canvassing a range of investors. It plans to invest in agricultural land and livestock, including African game, which will be sold on to private reserves and safari parks. The Fund also plans to develop biofuel crops on marginal land, saving prime agricultural acreage for crops to feed people.

Website: emergentasset.com/?func=Page

Aureos Africa Fund: Small and medium-sized enterprises across Africa are set to benefit from a multimillion dollar investment fund set up by private equity firm Aureos Capital with the Commonwealth Secretariat's assistance. The Aureos Africa Fund will provide long-term capital and support for promising and successful businesses across the continent.

Website: aureos.com

MICRO-LENDERS

Kiva: A non-profit organization with a mission to connect people through lending to alleviate poverty. Leveraging the Internet and a worldwide network of microfinance institutions, Kiva lets individuals lend as little as US \$25 to help to create opportunity around the world.

Website: kiva.org

United Prosperity: People can select the entrepreneur to support. Each US \$1 contributed acts as collateral or a loan guarantee with a bank. Based on the guarantee, the bank makes a loan of nearly US \$2 to the entrepreneur through a partner microfinance institution (MFI). Once a guarantee has been made, the entrepreneur's progress can be tracked online. On loan repayment, you receive your money and can choose to recycle it by guaranteeing the loan to another entrepreneur.

Website: Unitedprosperity.org

Grameen Foundation: Grameen Foundation helps the world's poorest, especially women, improve their lives and escape poverty by providing them with access to loans, essential information and viable business opportunities. Through two of the most effective tools known – small loans and the mobile phone – they work to make a real difference in the lives of those who have been left behind: poor people, especially those living on less than US \$1.25 per day. **Website:** grameenfoundation.org

SOCIAL FUNDING AND PATIENT CAPITAL

Acumen Fund: Its mission is to create a world beyond poverty by investing in social enterprises, emerging leaders and breakthrough ideas.

Website: acumenfund.org

Omidyar Network: A philanthropic investment firm. It creates opportunities to improve lives by investing in market-based efforts that catalyse economic, social and political change.

Website: Omidyar.com

Ashoka: Innovators for the Public: Ashoka provides a wide range of services and funding for social entrepreneurs and now has over 2,000 Fellows in over 60 countries on five continents.

Website: ashoka.org

Africa Entrepreneurship Platform: This groundbreaking initiative is created as a forum to showcase innovative ideas and businesses from Africa that have the ability to scale up internationally, driving job creation and sustainable economic development between Africa and the Americas.

Website: sacca.biz

TOOLKITS AND BUSINESS ADVICE

SME Toolkit Kenya.

Website: kenya.smetoolkit.org/kenya/en

HSBC Knowledge Center: News and know-how for your business. **Website:** knowledge.hsbc.co.uk

HSBC Business TV website.

Website: businessstv.hsbc.co.uk

SME Toolkit: Build Your Business.

Website: smetoolkit.org/smetoolkit/en

Branding Strategy Insider: Small businesses looking to develop their brand can find plenty of free advice and resources here.

Website: brandingstrategyinsider.com

Brandchannel: The world's only online exchange about branding, packed with resources, debates and contacts to help businesses to intelligently build their brand.

Website: brandchannel.com

Just Food: A web portal full of the latest news on the global food industry and packed with events and special briefings to fill entrepreneurs in on the difficult issues and constantly shifting market demands.

Website: just-food.com

Dutch Design in Development: DDiD will help Southern entrepreneurs and small enterprises to develop their brand and design identity and production processes by using experienced Dutch designers.

Website: ddid.nl/english/index.html

Making Cents International: Making Cents' curricula are effective tools for creating, strengthening and supporting current and future entrepreneurs and delivering financial literacy for all. In over 25 languages, Making Cents offers a range of classroom materials to training institutions, schools and after-school programmes that strengthen the quality and impact of their business and entrepreneurship training and advisory services.

Website: makingcents.com/products_services/curriculum.php

VENTURE CAPITAL

ClearlySo: ClearlySo connects social business, enterprise, commerce and investment. Its goal is to grow the social economy and help social entrepreneurs to raise capital and improve their core business skills. It helps investors to find exciting opportunities and introduce corporations to the social sector.

Website: clearlyso.com

The Social Venture Forum: The Social Venture Forum was started with the objective of informing, inspiring and encouraging actions in favour of harmonious development through Social Venture in China. In addition to the portal, the Social Venture Forum aims to be a monthly event in Beijing. It gives people from a broad range of horizons, such as entrepreneurs, NGOs, researchers, investors, institutions, representatives and the press an opportunity for networking in an ethical environment to meet, exchange ideas and build projects together.

Website: socialventureforum.com

The resources listed here are for information purposes only and do not indicate an endorsement. When seeking funding, do the research and ask questions. If something sounds too good to be true, it probably is.

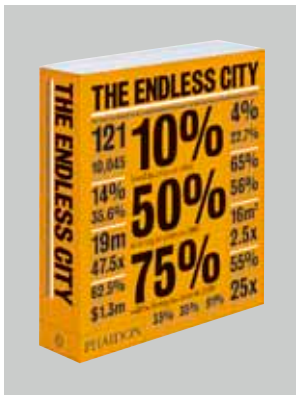
Quotables and Notables

- 01 If the European Union would put in place a new scheme to credit farmers who capture carbon in their land, "millions of dollars in carbon credits could begin flowing to the world's rural poor." At present, two-thirds of the carbon credit business is being captured by Asian countries that are mostly offering industrial solutions. "Africa has something to offer on this; it can't compete with the likes of South Korea on industrial solutions, but it has plenty of land." **Louis Verchon**, lead scientist for climate change at the World Agroforestry Centre, Nairobi, Kenya.
- 02 "Micro-ownership transforms the lives of the rural poor... Outside Bangalore in the state of Karnataka, one woman who was landless worked two shifts a day in the hot sun. She was barely able to feed her children. She was making 8 to 10 rupees a day – when a bottle of water costs 10 rupees. We helped her secure a plot of land to grow jasmine flowers, which she sells in the market. She now makes between 85 and 200 rupees a day. She can eat three times a day and her kids can afford to go to school. She said she had not thought about how far she had come, but it clearly showed she had such pride in what she had achieved. A number of Indian states have adopted this programme, enabling people to purchase micro-gardens and micro-plots of land." **Radha Friedman**, Associate Director, Development and Communication, Landesa: Rural Development Institute.
- 03 "Decentralizing is necessary if development is to reach the grassroots... We demonstrate the basic infrastructure, sustainable housing, food security. If the government is not bothering, maybe through the local people's efforts, we can try to demonstrate a variety of development models." **Rangeswamy Elango**, a head of the village of Kuthampakkam, India and founder of the Model Village India.
- 04 "Basically anybody who is able to work will do their best to support family back home. Mukuru's birth is the result of our inability to sit back and watch, as well as the desperate need to help those back home. The power of an instant SMS (short message service) being able to provide value to its recipient is inspiring. Launching **Mukuru.com** has not been without its hurdles. Promoting a brand with one foot in the first world and having to deal with third-world inconsistencies is always challenging." **Nix Davies** from **Mukuru.com**, an online remittance company.
- 05 "People know how to avoid health risks, like through cooking of vegetables... In VietNam and China, waste from households (fecal waste, solid waste and wastewater from household use) have always been effectively recycled in 'closed systems' at a household level where the waste/nutrients are recycled into the food chain and so return for human consumption. The risk for the consumer is extremely low, a waste product is productively recycled, the farmer has a good harvest and the city gets rid of its waste. A multiple win-win situation." **Pay Drechsel**, International Water Management Institute, Accra, Ghana.
- 06 "We see the house as the core issue. The farmers can improve their productivity but the starting point is the house. Family farming is very important for the country: 70 per cent of food for Brazilians comes from family farming. The government wants to keep people in rural areas." **Adriana Paola Paredes Penafiel**, Projects Adviser, Cooperhaf Brazil.
- 07 "I cycled 10 kilometres to the local cyber café, Googled (google.com) 'potato disease,' and discovered that ants were eating the potato stems. I checked again and found that one of the solutions was to sprinkle wood ash on the crop. I think I am the only farmer in the area who uses the Internet." Kenyan farmer **Zack Matere** told the BBC about how he boosted his potato crop by turning to Facebook for help.

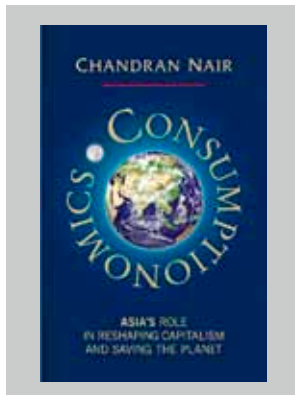
Books, etc.



The New Harvest: Agricultural Innovation in Africa by Calestous Juma, Publisher: Oxford University Press. Africa faces three major opportunities that can transform its agriculture into a force for economic growth, the author argues.



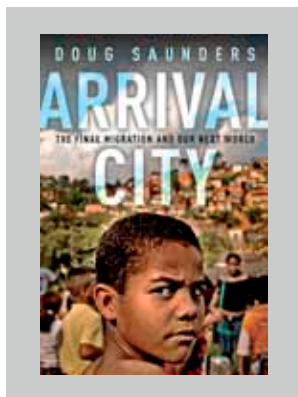
The Endless City and Living in the Endless City edited by Ricky Burdett and Deyan Sudjic, Publisher: Phaidon. Both books are excellent primers on the challenges facing the world's rapidly expanding cities.



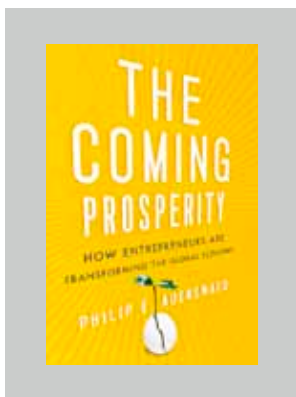
Consumptionomics: Asia's Role in Reshaping Capitalism by Chandran Nair, Publisher: Infinite Ideas. The book challenges Western development models for Asia, in particular consumption-driven capitalism.



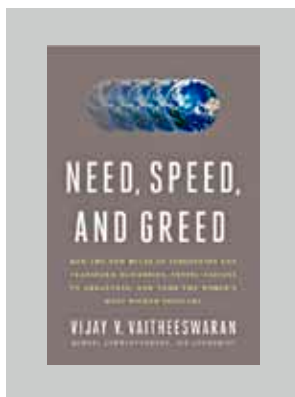
Stuffed and Starved: Markets, Power and the Hidden Battle for the World's Food System by Raj Patel, Publisher: Portobello Books Ltd. It argues that vast choice of foods available to Western consumers comes at the expense of rural communities.



Arrival City by Doug Saunders, Publisher: Pantheon. A third of humanity is on the move. History's largest migration is the focus of this book.



The Coming Prosperity: How Entrepreneurs Are Transforming the Global Economy by Philip Auerswald, Publisher: Oxford University Press. It is estimated that nearly 80 per cent of future global economic growth will originate in previously poor places.



Need, Speed and Greed by Vijay Vaitheeswaran, Publisher: HarperBusiness. Globalization and Googlization have kicked off the first phase of an innovation revolution more profound and more powerful than any economic force.



The Global Food Economy: The Battle for the Future of Farming by Anthony Weis, Publisher: Zed Books. It sets out some answers to the ultimate question: how can we build an ecologically sustainable and humane system of food production?

Papers + Reports

African Economic Outlook 2012: Promoting Youth Employment Publisher: Various. By almost 200 million people between the ages of 15 and 24, Africa has the youngest population in the world. This number will double by 2045. Many jobs have been created over the last decade, but the pace needs to accelerate significantly to match the demand of Africa's next generations. **Website:** africaneconomicoutlook.org/en

The Emerging Middle Class in Developing Countries Publisher: OECD.

Website: www.oecdilibrary.org/oecd/content/workingpaper/5kmmpp8lncrns-en (PDF - 2.09 mb)

The Implications of China's Ascendancy for Africa by Hany Besada, Publisher: The Centre for International Governance Innovation. This paper examines the extent to which China's engagement with Africa has produced mutual benefits for both and whether Africa is reaping the necessary benefits required for poverty alleviation and economic development. **Website:** cigionline.com/sites/default/files/Paper_40-web.pdf

Global Economic Decoupling Alive and Well Emerging economies decouple from the US, come closer to Europe. **Website:** marketoracle.co.uk/Article23670.html

One World Food Security Guide Over 900 million people experience the hardship that hunger imposes, a figure that continues to rise even amidst the riches of the 21st century. As world food prices scale new peaks, food insecurity and famine once again dominate humanitarian headlines, barely three years since the last crisis. **Website:** uk.oneworld.net/guides/food_security



Online Content

www.southerninnovator.org

A wide range of online resources is available to Southern entrepreneurs through our various websites. Check it all out!



Southern Innovator website

The *Southern Innovator* website archive is home to stories going back to 2006. This site is intended to be a resource for sharing the solutions and innovations found in the South. It is also a tool for weaving and fostering South-South networking around the world.

Website: www.southerninnovator.org



South-South Global Assets and Technology Exchange

SS-GATE is a virtual and physical platform where entrepreneurs in developing countries can interact and obtain needed technology, assets and finance in a secure environment. SS-GATE facilitates the realization of actual business transactions through a market mechanism, offering both online and offline beginning-to-end support services.

Website: www.ss-gate.org



Global South-South Development Expo

The Global South-South Development Expo (GSSD Expo) is the first-ever Expo solely from the South and for the South. It showcases successful Southern-grown development solutions (SDSs) to address the need to meet the Millennium Development Goals (MDGs).

Website: www.southsouthexpo.org



Global South-South Development Academy

The Global South-South Development Academy is an online, action-oriented service platform that facilitates access to Southern development solutions and Southern expertise for learning and application.

Website: tcde2.undp.org/GSSDAcademy

Issue 1



Southern Innovator's first issue tackled the theme of mobile phones and information technology.

Issue 2



Southern Innovator's second issue provides a snapshot of innovators addressing the problem of youth unemployment and the role that entrepreneurship can play.

Issue 3



Southern Innovator's third issue is about agribusiness and food security and how small-scale farmers can become agribusinesses.



Agribusiness

TREND

Savvy Businesswoman Wants African Farming to Be Cool

• **World Vegetable Center:** The World Vegetable Center is the world's leading international non-profit research and development institute committed to alleviating poverty and malnutrition in developing countries through vegetable research and development.

Website: avrdc.org

• 2050: Africa's Food Challenge:

Prospects good, resources abundant, policy must improve: A discussion paper from the Food and Agriculture Organization of the United Nations (FAO).

Website: www.fao.org/wsfs/forum2050/wsfs-background-documents/issues-briefs/en

• **African Capital Alliance (ACA)** is a leading private-equity firm focused on Nigeria and West Africa.

Website: aca-web.com

• **Branding Strategy Insider:** This blog provides advice and case studies on how to build trust for your brand.

Website: brandingstrategyinsider.com

• **Olam:** A global food supply company in "agri-products" that got its start in Nigeria. **Website:** olamonline.com

• **Starting a SME (small and medium enterprises):** This website is packed with advice and tips for starting a small business and how to grow it with limited resources.

Website: www.smallbusiness.co.uk

• **Honeysuckle PTL Ventures, or Farm Shoppe:** Based in Lagos, the business capital of Nigeria, Farm Shoppe is a successful and modern agribusiness focusing on high-quality food products using modern packaging and fast delivery.

Website: farmshoppe.com.ng

Food Diplomacy Next Front for South's Countries

• **Mobile Cuisine:** *Mobile Cuisine Magazine* is dedicated to delivering readers every must-read street food, food truck, food cart and food stand story bubbling up across the Web, along with exclusive news, interviews, and photos.

Website: mobile-cuisine.com

CONSUMER

West African Chocolate Success Story

• **Divine Chocolate:** The highly successful global chocolate brand from the Kuapa Kokoo farmers' cooperative in Ghana, West Africa.

Website: divinechocolate.com/shop

• **Kuapa Kokoo cocoa farmers cooperative.**

Website: kuapakokoo.com

• **How to make chocolate bars from the bean to bar.**

Website: wikihow.com/Make-Chocolate

• **Home Chocolate Factory:** A website selling the moulds and other accessories for making chocolate products in small factories or at home.

Website: homechocolatefactory.com

• **Fair Trade:** The Fair Trade brand manages Fair Trade certification for food producers.

Website: fairtrade.org.uk

• **World Fair Trade Organization Europe:** **Website:** wfto-europe.org/lang-en/fair-trade.html

Connoisseur Chocolate Surges in South

• **International Cocoa Organization:** A good source of current data on the trade. **Website:** www.icco.org

• **Fair Trade Labelling Organization:** Sets the standards for fair-trade and is the place to go to receive official certification.

Website: www.fairtrade.org.uk

• **The Max Havelaar Foundation:** Sets the standards for fair-trade in continental Europe.

Website: www.maxhavelaar.nl

• **The International Federation of Organic Agriculture Movements (IFOAM):** It represents the organic farmers' movement.

Website: www.ifoam.org

• **World Cocoa Federation:** Formed in 2000 to play a leading role in helping cocoa farming families by developing and managing effective, on-the-ground programmes, raising funds and acting as a forum for broad discussion of the cocoa farming sector's needs.

Website: worldcocoafoundation.org

MARKETING

Rainforest Gum Gets Global Market

• **Design that Matters:** Design that Matters (DTM) was founded to help social enterprises in developing countries scale up enterprises more quickly by providing them access to better products designed specifically for their business needs.

Website: designthatmatters.org

• **An audio slideshow about how the organic gum tappers of Calakmul, Mexico, have organized their comeback as a business.**

Website: www.guardian.co.uk/world/interactive/2008/dec/31/mexico-chewing-gum

• **A brief history of chewing gum around the world.**

Website: inventors.about.com/od/gstartinventions/a/gum.htm

• **Waitrose Supermarket:** It regularly sources Fair Trade and organic food products from the global South.

Website: www.waitrose.com

Açaí Berry Brings Prosperity to Amazon's Poor

• **Just Food:** A web portal packed with the latest news on the global food industry and details of events and special briefings to fill entrepreneurs in on the difficult issues and constantly shifting market demands.

Website: www.just-food.com

• **International Cooperative Agricultural Organisation:** The ICAO is the democratic organization representing agricultural cooperatives and farmers worldwide.

Website: www.agricoop.org

TRADE

Trade Benefiting the Poor Continues to Grow in Hard Times

• **Ten Thousand Villages:** An online fair trade shop selling handicrafts from around the world.

Website: www.tenthousandvillages.com

• **Agbanga Karite:** A Togo-based African-owned online retailer selling products made from unrefined shea butter, including soaps, creams and oils.

Website: agbangakarite.com

• **Ananse Village:** A Fair-Trade online shop vending a wide range of crafts and

products from Africa's villages.

Website: anansevillage.com

African Farming Wisdom Now Scientifically Proven

• **Ants and termites increase crop yield in a dry climate** by Theodore A. Evans, Tracy Z. Dawes, Philip R. Ward and Nathan Lo, *Nature Communications* 2, Article number: 262

• **Integrating Ethno-Ecological and Scientific Knowledge of Termites for Sustainable Termite Management and Human Welfare in Africa** by Gudeta W. Sileshi et al, *Ecology and Society*, Volume 14, Number 1.

Website: www.ecologyandsociety.org/vol14/iss1/art48

• **State of the World 2011: Innovations that Nourish the Planet.**

Website: www.worldwatch.org/sow11

• **Soil health crisis threatens Africa's food supply.**

Website: www.newscientist.com/article/dn8929

Putting Worms to Work

• **GlobalSoilMap:** An initiative building a real-time soil map.

Website: www.globalsoilmap.net

Camel Ice Cream Delivering Desert Dessert

• **The Tiviski Dairy in Mauritania:** Africa's first camel milk dairy helping semi-nomadic herders.

Website: tiviski.com

• **Growing Inclusive Markets:** A new web portal from UNDP packed with case studies, heat maps and strategies on how to use markets to help the poor.

Website: growinginclusivemarkets.org

• **Al Ain Dairy:** In the United Arab Emirates, this dairy was the first to launch a range of camel milk ice creams for the Middle East market.

Website: www.alaindairyuae.com

• **A photo essay in the New Agriculturalist** shows the herders at work harvesting the milk for the ice cream.

Website: www.new-ag.info/09/01/picture.php

China's Booming Wine Market Can Boost South

• **China Wines Information:** A website with the latest news and events on China's fast-growing wine market.

Website: wines-info.com/en/index.aspx

• **Shenzhen International Wine Hub:** Shenzhen International Wine Hub is located in downtown Longgang, and is designed to provide an unprecedented one-stop platform for all wine-related business, integrating product exhibition, wine trading, wine information and statistics publishing, wine-knowledge training, quality examination and evaluation and wine-culture showcasing as well as food and recreation.

Website: www.szwinehub.com/en

Indonesian Food Company Helps Itself by Making Farmers More Efficient

• **Embrapa:** The Brazilian Agricultural Research Corporation's mission is to provide feasible solutions for the sustainable development of Brazilian agribusiness through knowledge and technology generation and transfer.

Website: www.embrapa.br/english

• **Divine Chocolate:** The highly successful global chocolate brand from the Kuapa Kokoo farmers' cooperative in

Ghana, West Africa.

Website: divinechocolate.com/shop

• **Olam:** The highly successful global food product supplier brand that got its start in Nigeria, West Africa.

Website: olamonline.com

Civet Cat Coffee Brews Filipino Opportunity

• **Fair Trade Foundation:** Fair Trade is about better prices, decent working conditions, local sustainability, and fair terms of trade for farmers and workers in the developing world.

Website: www.fairtrade.org.uk

• **Red Dot:** The logo stands for the best in design and business. The red dot is an internationally recognized quality label for excellent design that is aimed at all those who would like to improve their business activities with the help of design.

Website: en.red-dot.org

• **Branding Strategy Insider:** Small businesses looking to develop their brand can find plenty of free advice and resources here.

Website: brandingstrategyinsider.com

• **"Composition and properties of Indonesian palm civet coffee (Kopi Luwak) and Ethiopian civet coffee."** **Website:** sciencedirect.com/science/article/pii/S0963996904001309

• **Production Guide for Arabica Coffee** by Bote Central.

Website: www.scribd.com/doc/19991462/Production-Guide-for-Arabica-Coffee-by-Bote-Central-Inc-Maker-of-Coffee-Alamid

Food Security

INNOVATION

Cooking Bag Helps Poor Households

• **Haybox:** Haybox is another variation on the concept of heat retention for efficient cooking.

Website: haybox.co.uk

• **How to build a clay oven.**

Website: clayoven.wordpress.com/2008/08/29/1-building-a-clay-oven-the-basics

• **Solar ovens:** Solar ovens and cookers are another way to cut costs when making meals. This website has many designs and plans on how to build a solar cooker.

Website: solarcooking.org/plans

Insects Can Help in Food Crisis

• **Edible Unique:** An online supermarket of gourmet insect food products.

Website: www.edibleunique.com

TECHNOLOGY AND SCIENCE

Cool Food for the Poor

• **Zero Mass Foundation:** No-frills banking specially aimed at India's rural village poor.

Website: zero-mass.org

• **iNext Billion:** Development Through Enterprise catalyses sustainable economic growth by identifying market opportunities and business models that meet the needs of underserved communities in emerging economies.

Website: wri.org/project/nextbillion

Brazil's Agricultural Success Teaches South How to Grow Food

• **Africa Project Access:** A South African



Contacts and Resources

company specializing in projects in sub-Saharan Africa and getting them finance.

Website: africaprojectaccess.co.za

• **Silk Invest:** A specialist investment fund targeting the fast-growing markets of Africa and the Middle East.

Website: www.silkinvest.com

• **Africa-Brazil Agricultural Innovation Marketplace:** The Africa-Brazil Agricultural Innovation Marketplace is an international initiative supported by different donors aiming to link Brazilian and African experts and institutions to develop cooperative projects.

Website: www.africa-brazil.org

FUNDING

Milk Cooperatives Help Hungry Haiti

• A series of videos showing how Lèt Agogo works.

Website: veterimed.org.ht

Growing a Southern Brand to Global Success: The Olam Story

• **Brandchannel:** Packed with resources and contacts to help businesses intelligently build their brand.

Website: www.brandchannel.com

• **Branding Strategy Insider:** This blog provides advice and case studies on how to build trust for your brand.

Website: brandingstrategyinsider.com

• **Starting a SME (small and medium enterprises):** This website is packed with advice and tips for starting a small business and how to grow it with limited resources.

Website: www.smallbusiness.co.uk

• **World Business Fair:** The World Business Fair is an international trade platform for global entrepreneurs and professionals.

Website: worldbusinessfair.com

Brazil Preserves Family Farms, Keeping Food Local and Healthy

• **Local Harvest:** Uses a sophisticated website and map to help customers find local farmers and buy their products. It also is packed with resources and offers a good model for Southern farmers to work together.

Website: www.localharvest.org

• **Ela Family Farms:** An organic fruit farm (peaches, apples, pears and cherries) that uses a website and sophisticated product marketing to sell the farm's produce.

Website: www.elafamilyfarms.com

• **Slow Food:** The global movement for slow food, which encourages organic production and appreciation of traditional foods and cooking.

Website: www.slowfood.com

Brewing Prosperity Creates Good Jobs

• **Brandchannel:** The world's only online exchange about branding, packed with resources, debates and contacts to help businesses intelligently build their brand.

Website: www.brandchannel.com

• **Just Food:** A web portal packed with the latest news on the global food industry and packed with events and special briefings to fill entrepreneurs in on the difficult issues and constantly shifting market demands.

Website: www.just-food.com

• **Branding Strategy Insider:** Small businesses looking to develop their

brand can find plenty of free advice and resources here:

Website: brandingstrategyinsider.com

Protecting Threatened Fruits and Nuts in Central Asia

• **Global Trees Campaign:** A partnership between Fauna & Flora International, Botanic Gardens Conservation International and many other organizations around the world aims to save threatened tree species through the provision of information, conservation action and support for sustainable use.

Website: www.globaltrees.org

• **Environmental Public Awareness Handbook:** A thorough account with case studies of a successful two-year project in Mongolia to combine environmental protection with livelihoods.

Website: tinyurl.com/yhjy7dh

New Appetite for Nutritious Traditional Vegetables

• **World Vegetable Center:** The World Vegetable Center is the world's leading international non-profit research and development institute committed to alleviating poverty and malnutrition in developing countries through vegetable research and development.

Website: avrdc.org

• **Marketing African Leafy Vegetables: Challenges and Opportunities in the Kenyan Context** by Kennedy M. Shiundu and Ruth. K. Oniang.

Website: bioline.org.br/abstract?nd07036

Urban Farming to Tackle Global Food Crisis

• **Square Foot Gardening:** A book with all the details on how to grow food in tight, urban spaces.

Website: www.amazon.com

• **Urban Gardening Help:** A website dedicated to tips for urban gardeners, with resources on urban food production.

Website: urbangardeninghelp.com

• **Small Urban Gardens:** A book covering case studies of urban gardens from around the world.

Website: amazon.co.uk/Small-Urban-Gardens-Evergreen/dp/3822851418

• **An interactive map showing how the world food crisis is affecting countries.**

Website: ft.com/cms/s/0/d8184634-07cc-11dd-a922-0000779fd2ac.html?from=text&nclink_check=1

Urban Farmers Gain from Wastewater

• **The Vertical Farm:** Vertical farming, where hothouses are piled one on top of the other, is an option being promoted as a solution to the food needs of urban dwellers. **Website:** verticalfarm.com

• **Extensive photographs of vertical farm project concepts by Chris Jacobs in cooperation with the grandfather of skyscraper farm concepts, Dr. Dickson Despommier of Columbia University.** His ideal: all-in-one eco-towers would actually produce more energy, water (via condensation/purification) and food than their occupants would consume. His mission: to gather architects, engineers, economists and urban planners to develop a sustainable and high-tech wonder of ecological engineering.

Website: tinyurl.com/37o45k

• **Urban Gardening News:** A news service providing a review of daily news targeting everyone involved in planning and practicing alternative farming in cities. Great updates on how things are progressing across the South.

Website: urbanagriculture-news.com

Farmers Weather Fertilizer Crisis by Going Organic

• **Eat Your Garden:** It provides urban dwellers and food businesses with their own food gardens to help reduce carbon footprints, create employment and provide training to alleviate poverty.

Website: eatyourgarden.co.za

• **Soil Association:** The organization that establishes the standards necessary for food to be called "organically grown".

Website: www.soilassociation.org

Brazilian Restaurant Serves Amazonian Treats

• **Brazilian Exporters and Importers:** Brazilian exporters and importers aims at facilitating foreign entrepreneurs to locate Brazilian importers, exporters and partners offering services and investment in Brazil.

Website: brazilianexportersandimporters.com/index.aspx

• **Por uma Gastronomia Brasileira** by Alex Atala - ISBN 8586518352.

Website: www.facebook.com/pages/Alex-Atala/113372012006193

• **Eat Smart in Brazil: How to Decipher the Menu, Know the Market Foods and Embark on a Tasting Adventure** by Joan Peterson, Publisher: Ginko Press.

Website: ginkgopress.com

• **How to contact the food providers covered in the story:**

Websites: domrestaurante.com.br

droervaseflores.com

arrozpreto.com.br

dalvaedito.com.br

Model Indian Villages to Keep Rural Relevant

• **Unleashing India's Innovation: Toward Sustainable and Inclusive Growth** – a report by the World Bank.

Website: tinyurl.com/cqa5fr

• **NextBillion.net:** Hosted by the World Resources Institute, it identifies sustainable business models that address the needs of the world's poorest citizens.

Website: www.wri.org

• **CIDEM and Ecosur:** Specialize in building low-cost community housing using eco-materials. They have projects around the world and are based in Cuba.

Website: www.ecosur.org

Kenyan Products a Global Success

• Small businesses looking to develop their brand can find plenty of free advice and resources here.

Website: brandingstrategyinsider.com

• **Brandchannel:** The world's only online exchange about branding, packed with resources, debates and contacts to help businesses intelligently build their brand.

Website: www.brandchannel.com

• **Just Food** is a web portal packed with the latest news on the global food industry and packed with events and special briefings to fill entrepreneurs in on the difficult issues and constantly shifting market demands.

Website: www.just-food.com

• **Dutch Design in Development** will help Southern entrepreneurs and small

enterprises to develop their brand and design identity and production processes by using experienced Dutch designers.

Website: ddid.nl/english/index.html

Additional Resources

• Agriculture

Food and Agriculture Organization of the United Nations: The FAO website is packed with resources and contacts and is an important first step for anyone working with food.

Website: www.fao.org

• Food Security

Global Food Security: The UK's main public funders of food-related research are working together through the Global Food Security programme to meet the challenge of providing the world's growing population with a sustainable, secure supply of nutritious food from less land and the use of fewer inputs.

Website: www.foodsecurity.ac.uk

Key Terms and Abbreviations

Agribusiness: Noun: Agriculture conducted on strictly commercial principles; an organization engaged in agribusiness; the group of industries dealing with agricultural produce and services required in farming (*Oxford English Dictionary*).

Apps: Apps is an abbreviation for applications. An app is a piece of software. It can run on the Internet, on your computer or on your phone or other electronic device.

Biotechnology: Noun: The exploitation of biological processes for industrial and other purposes, especially the genetic manipulation of microorganisms for the production of antibiotics, hormones, etc. (*Oxford English Dictionary*).

Caveat Emptor: Noun: The principle that the buyer is responsible for checking the quality and suitability of goods before a purchase is made (*Oxford English Dictionary*).

Duty of Care: The legal obligation for an individual to adhere to a standard of reasonable care while performing any acts that could foreseeably harm others.

FAO: Food and Agriculture Organization of the United Nations: Achieving food security for all is at the heart of FAO's efforts - to make sure people have regular access to enough high-quality food to lead active, healthy lives. FAO's mandate is to raise levels of nutrition, improve agricultural productivity, better the lives of rural populations and contribute to the growth of the world economy.

Farm to Fork: Used to refer to the various processes in the food chain from agricultural production to consumption (*Oxford English Dictionary*).

Fertilizer: Noun: A chemical or natural substance added to soil or land to increase its fertility (*Oxford English Dictionary*).

Food Security: FAO defines food security as existing when all people, at all times, have physical, social and economic access to sufficient,



safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life.

Geodesic Dome: Noun: A dome constructed of short struts following geodesic lines and forming an open framework of triangles or polygons. The principles of its construction were described by Buckminster Fuller (*Oxford English Dictionary*).

GMO: Abbreviation: Genetically modified organism (*Oxford English Dictionary*).

Logo: Noun: A symbol or other small design by an organization to identify its products, uniform, vehicles, etc. (*Oxford English Dictionary*).

Organic: Adjective: Relating to or derived from living matter: organic soils. Of food or farming methods produced or involving production without the use of chemical fertilizers, pesticides, or other artificial chemicals: organic farming organic meat. Noun: Food produced by organic farming (*Oxford English Dictionary*).

Smartphone: Noun: A mobile phone that is able to perform many of the functions of a computer, typically having a relatively large screen and an operating system capable of running general-purpose applications (*Oxford English Dictionary*).

Traceability: The European Union defines traceability as the ability to trace and follow food, feed, and ingredients through all stages of production, processing and distribution.

UNDP: The United Nations Development Programme is the United Nations' global development network.

natural disasters. It also has advice on crop insurance, crop monitoring and forecasting, frost protection and methods and tools.

• Agri-environmental Hotspots



Agri-environmental hotspots are locations where human activities are detrimental to the sustainability of an ecosystem or the human activities depending on it.

Hotspots are a critical threshold on a continuous scale ranging from "natural environment" to "fire points". If no corrective action is taken, they may gradually evolve into extremely tense socio-economic situations associated with a severe degradation of the natural-resource base and food security.

• Global Water Stress Maps



In order to provide a global, real-time and qualitative warning of current and future agricultural emergencies, Agroclimatic Hotspots maps will indicate areas where excess or deficit over the expected rainfall is likely to produce serious damage to rainfed agriculture or pastures.

The risk can be weighted with other coexistent critical factors, for instance high population density or high soil degradation. The use of downloadable digital grids improves the flexibility of this product.

The methodology used to produce the Global Water Stress Maps in digital form consists of comparing actual and average monthly precipitation digital maps at 1.0° of spatial resolution during the periods when agricultural activities are more "sensitive" to water stress, i.e., in the zones where the combination of rainfall, mean temperature and potential evapotranspiration average patterns produces an active "growing season". Over a given period of time, selected by the user, the final maps show the percentage of the agricultural

season affected by precipitation excess and/or deficit.

Input data are provided by the Global Precipitation Climatology Centre (GPCC) operated by the Deutscher Wetterdienst (DWD, National Meteorological Service of Germany).

• FAO Core Datasets



FAO produces a large number of Geographic Information System (GIS) datasets for monitoring, assessment and analysis of environmental and socio-economic factors causing poverty and food insecurity. Particular relevance is given to malnutrition, farming systems and crops, livestock production systems, fishery and forestry sectors, agro-ecological zoning, land and water resources management and climate-related issues.

Website: www.fao.org/geonetwork/srv/en/main.home

Website: www.fao.org/nr/climpag/aw_1_en.asp

Source: FAO: Climpag: Climate Impact on Agriculture

• GeoNetwork: Find and Analyse Geo-spatial Data



The FAO GeoNetwork provides Internet access to interactive maps, satellite imagery and related spatial databases maintained by FAO and its partners. Its purpose is to improve access to and integrated use of spatial data and information.

Through this website, FAO facilitates multidisciplinary approaches to sustainable development and supports decision-making in agriculture, forestry, fisheries and food security.

Maps, including those derived from satellite imagery, are effective communication tools and play an important role in the work of various types of users:

- Decision Makers: e.g. Sustainable development planners and humanitarian and emergency managers in need of quick, reliable and

up-to-date user-friendly cartographic products as a basis for action to better plan and monitor their activities.

- GIS Experts in need of exchanging consistent and updated geographical data.
- Spatial Analysts in need of multidisciplinary data to perform preliminary geographical analysis and reliable forecasts to better set up appropriate interventions in vulnerable areas.

Agriculture and Food Security Facts

- African women spend 200 hours a hectare a year weeding with rudimentary implements.
- United Kingdom has 883 tractors per 1,000 farm workers, compared to 2 tractors per 1,000 farm workers in Africa.
- Africa has 13 tractors per 100 square kilometers of arable land, compared to a world average of 200 tractors.
- Fertilizer use in Africa is less than 10 per cent of the world average of 100 kilograms/hectare.
- Only 4 per cent of Africa's crop area is irrigated, compared to 38 per cent in South Asia.
- Agricultural products account for 20 per cent of Africa's exports.
- In sub-Saharan Africa, agriculture directly contributes 34 per cent of GDP and 65 per cent of employment.

Source: Professor Cailestous Juma, Professor of the Practice of International Development, Director, Science, Technology, Globalization, Belfer Center for Science and International Affairs

Communication to Farmers: From FAO Climpag Website

With more and more farmers able to turn to information technology tools such as mobile phones, smart phones and the Internet, the vast treasure trove of resources provided by organizations such as FAO can now be integrated into their devices. To save time, *Southern Innovator* has provided a quick snapshot of some of the data resources that can be found on the FAO's Climpag website. These resources aim to help farmers make intelligent decisions based on the latest information on how climate change is affecting weather patterns.

Agrometeorological information, used for decision-making, represents part of a continuum that begins with scientific knowledge and understanding and ends with evaluation of the information.

Scientific knowledge and understanding transcend national borders, cultures and societies. Other components of this continuum are the collection of data and transforming data into useful information. Information has value when it is disseminated in such a way that the end-users get the maximum benefit in applying its content.

The website offers advice and warnings for farmers and is broken down into five content areas: climate change, climate indicators, data and maps, hotspots and

NEXT ISSUE OF SouthernInnovator

CITIES AND URBANIZATION

Southern Innovator is published by the Special Unit for South-South Cooperation in the United Nations Development Programme, New York, New York, USA. The Special Unit also publishes a monthly e-newsletter, *Development Challenges, South-South Solutions* (southerninnovator.org).

The views expressed in this publication are those of the author(s) and do not necessarily represent those of the United Nations, the United Nations Development Programme or governments.

GLOBAL SOUTH-SOUTH DEVELOPMENT EXPO

SOLUTIONS!

www.southsouthexpo.org

Special Unit for South-South Cooperation, UNDP

MILLENNIUM
DEVELOPMENT
GOALS



**Percentage of land preparation
in Africa done by hand:**

80%



**Potential value of world
camel milk market:
US \$10 billion**



United Nations
Development Programme
One United Nations Plaza
New York, NY 10017

www.undp.org



www.southerninnovator.org

**Number of African households
that could be supported by
harvesting baobab tree fruit:**

2.5 million

